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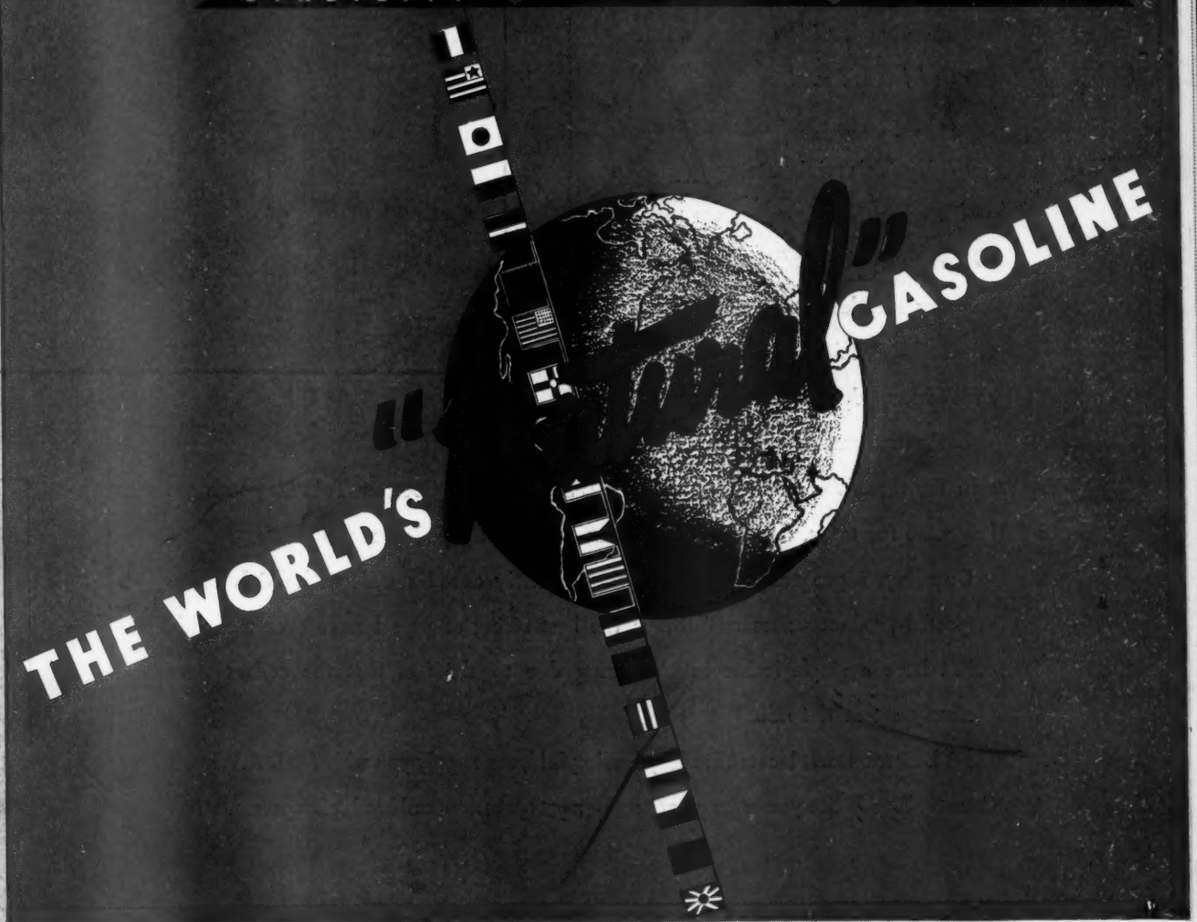

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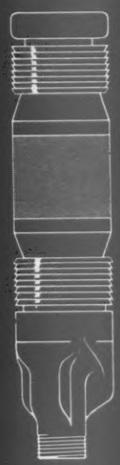

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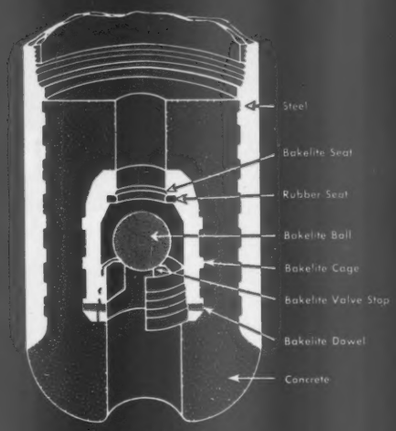
Baker Cement Whirler Float Collar with Solid Bottom Baffle, with Metal "Petal" Basket



Baker Cement Float Shoe

Successful Oil Tools

ARE "DEVELOPED" NOT "DISCOVERED"

THE HISTORY of the machine age is a continuous story of discoveries . . . discoveries which opened the vistas to the remarkable period in which we now live. Discoveries, however, while tremendously important, are only the nucleus or starting point, for to be of commercial value most "discoveries" or inventions must be "developed."

It is both fortunate and unfortunate that oil tools are no exception to this rule. Fortunate because it is only through this tedious development period of trial and error that the refined product or tool can result . . . unfortunate perhaps (from the manufacturer's cost standpoint), because usually the development period continues more or less indefinitely as the result of constantly changing conditions under which the tool must operate; or requirements such as higher efficiencies which must be met.

Thus, products, such as make up the Baker Line of Oil Tools, which have been some thirty years in the development process, acquire a certain "face value" which operators have been quick to recognize and appreciate. Oil men the world over know that a tool or device bearing the word "Baker" reflects an invaluable background of accumulated experience . . . a background that results in the ability of each and every Baker tool to successfully perform the task for which it was designed.

Operating and supervising personnel, upon whose shoulders rests the bulk of responsibility for results, are doubly appreciative of this highly important background as it affords a measure of reassurance and peace of mind, the value of which is difficult to calculate in cold terms of dollars and cents.

The familiar Baker slogan "Practical and Dependable," is more than simply a play on words . . . it means just that, for to be successful, oil tools must necessarily be "practical and dependable" and practicability and dependability result from constant *development* . . . not *discovery* alone.

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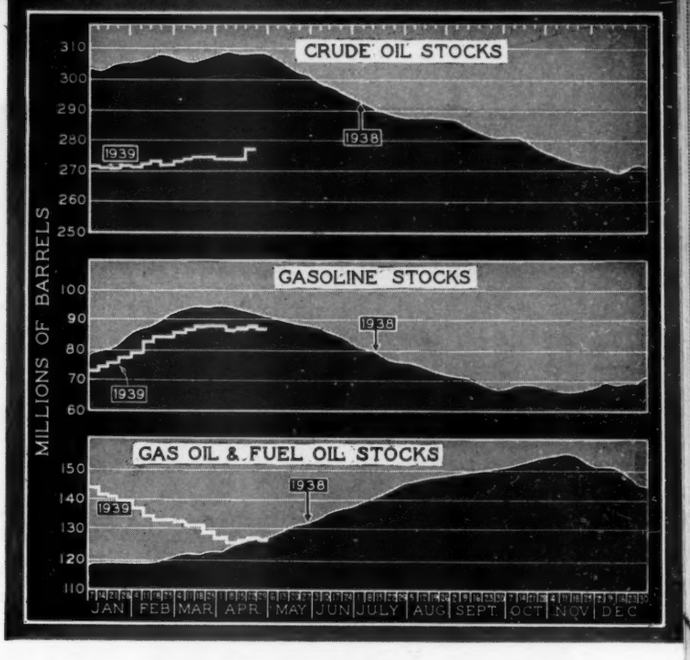
Trends

Inventory Trends Indicate Need for Reductions in May


CRUDE OIL STOCKS
GASOLINE STOCKS
GAS OIL & FUEL OIL STOCKS
MILLIONS OF BARRELS
1938
1939
JAN FEB MAR APR MAY JUN JULY AUG SEPT OCT NOV DEC

MARKET students are citing current statistical data in support of their contention that crude producing and refinery operations are being expanded unduly with the danger of nullifying the improvement that was under way earlier in the year. The upward trend in crude production continued last week, reaching a level which economists have estimated would not be required until the peak consumption period of July and August. The production of all of the larger states was in excess of state allowables and with the exception of Oklahoma and New Mexico the output exceeded the Bureau of Mines' recommendations. Nationally, the daily crude output exceeded the B. of M.'s April recommendation by 127,952 bbls. and the May recommendation by 136,752 bbls.

CRUDE PRODUCTION *3,561,592 barrels daily average — up 38,996. One year ago 3,393,042 barrels.*

CRUDE STOCKS *277,156,000 barrels as of April 22—up 1,299,000. One year ago 307,654,000 barrels.*

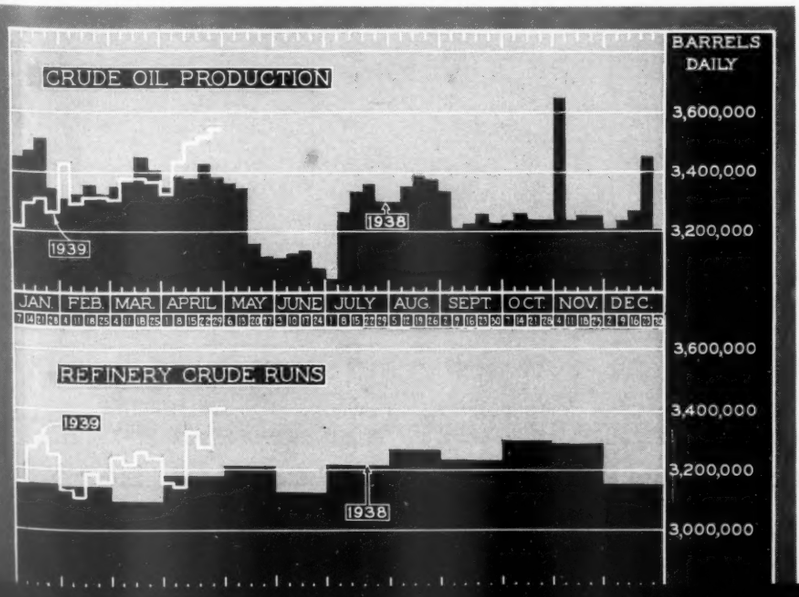
GASOLINE STOCKS *86,794,000 barrels as of April 29—down 975,000. One year ago 90,134,000 barrels.*

GAS AND FUEL OIL STOCKS *126,712,000 barrels as of April 29—down 181,000. One year ago 127,556,000 barrels.*

REFINERY RUNS *3,405,000 barrels daily week ending April 29—up 125,000. One year ago 3,189,000 barrels.*

The results of these operations were shown in the government data for the two weeks ending April 22, which revealed that crude was going to storage at the rate of 100,000 bbls. daily. The stock data indicate that excess production is fairly general, with the largest inventory increases in the Texas and Louisiana Gulf Coast, New Mexico and Illinois-Michigan.

These market analysts also contend that the additions to crude storage would be even greater if it were not for the fact that refiners have greatly increased their average runs to stills over the past month and absorbed a part of the increased output from wells. They point to refinery statistics to show that these increased runs to stills were not justified by the existing market outlets. The outstanding results were the additions to gasoline stocks two weeks during April, a month which usually witnesses a steady reduction in motor fuel inventories accumulated at refineries during the late fall and winter months. Owing to this development, gasoline stocks are now only about 3,500,000 bbls. under a year ago, in contrast to the situation a few weeks ago when stocks were 8,000,000 bbls. under the comparable period of 1938. This situation is accounted for entirely by the expansion in supply, reports indicating that gasoline demand is 5 per cent ahead of last year.

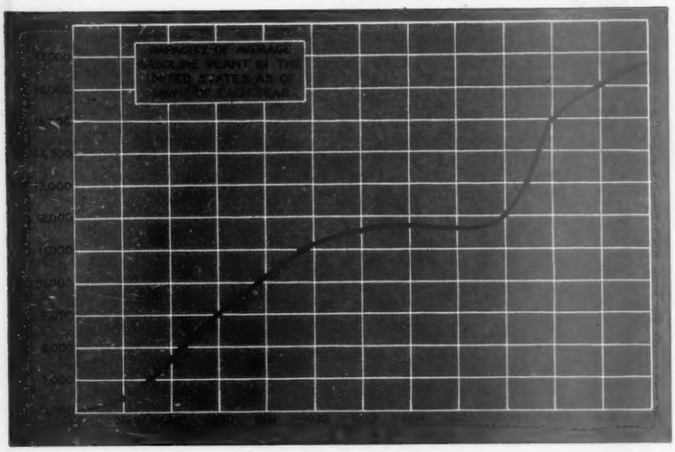


DAILY AVERAGE PRODUCTION FOR WEEK

	April 29, 1939	Bur. Mines Apr. est. of demand	Apr. state allowables	Apr. 22, 1939
Oklahoma City	104,150	.....	.....	104,475
Fitts	27,275	.....	.....	29,800
Remainder of state	330,225	.....	.....	317,325
Total Oklahoma	462,125	473,300	428,000	451,600
East Texas	446,798	.....	.....	446,647
West Texas	229,196	.....	.....	229,648
North Central Texas	115,550	.....	.....	115,748
Texas Panhandle	74,250	.....	.....	74,092
East Central Texas	105,250	.....	.....	104,749
Gulf Coast Texas	371,348	.....	.....	364,381
Southwest Texas	119,398	.....	.....	118,872
Total Texas	1,461,790	1,412,700	1,453,304	1,454,137
North Louisiana	76,400	.....	.....	75,290
Gulf Coast Louisiana	190,300	.....	.....	193,500
Total Louisiana	266,700	262,000	257,920	268,790
California	607,500	592,000	575,000	611,250
Kansas	177,725	152,700	156,850	171,025
Arkansas	54,730	53,300	52,993	52,655
Illinois	185,400	149,300	.....	172,895
Eastern fields	97,700	104,800	.....	96,200
Michigan	62,472	48,300	..	61,114
New Mexico	113,500	115,300	109,700	113,580
Rocky Mountain area	72,310	70,300	.....	69,710
Total United States	3,561,952	3,434,000	.....	3,522,956

The conclusion drawn from these analyses is that May production and refinery operations should be reduced in line with the B. of M.'s recommendations. Texas and Oklahoma have announced allowables in line with this policy. With a new peak in production last week, it is predicted that Illinois' output will reach 200,000 bbls. daily this month.

The Department of Justice's plan to conduct a grand jury investigation of oil marketing practices in California is not considered a favorable development in the efforts to stabilize the West Coast operations. Lacking a conservation act, all curtailment programs have been worked out by the industry in that state on a voluntary basis.



Within 10 years the average capacity of gasoline plants in the U. S. has doubled. Fewer but larger plants are order of the day

Developments of Natural

By W. T. ZIEGENHAIN

Slowly, but effectively, the natural gasoline industry is adjusting its operations to meet the new demands placed upon it. Relatively low product prices, the proration of oil and gas in important fields and the frequent demand for guaranteed high-octane blending values constitute some of the more important factors that are influencing the course of the industry.

Most of these factors may be classed as economic and the industry is meeting these through increased efficiency of operations, lower unit equipment costs and the consolidation of plant operations. The trend toward fewer but larger plants is again shown in the latest survey by The Oil and Gas Journal which lists 652 plants as of May 1, 1939, compared with 680 plants a year ago. This drop of 28 plants in number for the year is in keeping with the rate of abandonment or consolidation witnessed by the industry for many years past and it simply emphasizes the economic advantage of the operating units of relatively large capacity in contrast with operating more small units. The accompanying chart traces the mortality among natural gasoline plants over a long period of years, but accompanying this graph is another which reveals the remarkable growth of natural gasoline industry has had over this same period with respect to capacity.

By comparing the two graphs it becomes apparent that, whereas the number of natural gasoline plants is now about one-half of what it was when at its peak in 1928, the combined capacity of the plants making up the industry has been increased 20 per cent since.

Capacity of Plants

Within the past year the combined capacities of all plants in the United States remained practically the same as it was one year ago. In the accompanying table the present capacity is shown as 10,882,481 gallons daily. This is considerably in excess of the actual daily output of natural gasoline plants, many of them being forced to operate at rates substantially below their capacities.

This situation is typical of conditions within the natural gasoline industry at all times, but the condition has been accentuated in the past five years by the more effective curtailment of oil and gas production in flush areas.

Directly as a result of prorating gas production, many old plants have been unable to continue to process the volume of gas which the plants were built to handle. Similarly, the flow of gas has been intermittent, reflecting the shorter time during which the wells have been allowed to flow, and the result in such instances has been that plants have operated less efficiently, with some idle capacity. This has been an important factor influencing the consolidation of operations among companies. These consolidations have been most pronounced throughout the Mid-Continent and more particularly in Oklahoma.

It may be of interest to review the distribution of plants and capacity within the United States at this time. About one-fourth of the number of plants and about one-third of the total capacity of all plants are credited to Texas. Next in importance in number of plants come Oklahoma and California. These same states also immediately follow Texas in regard to capacity also but the order is reversed in that California is credited with 3,047,300 gallons as a daily capacity compared with 2,135,690 gallons for Oklahoma.

Papers presented before Natural Gasoline Association of America start on Page 46. Annual survey of industry starts Page 77.

While these three states account for the great bulk of the activities of the natural gasoline industry, plants are located in 13 other states, of which Louisiana, Kansas and West Virginia are most prominent. An accompanying table shows the capacities and number of plants in each state.

Nature of Production

The past demand for low vapor pressure grades is influenced by the desire on the part of refiners to use a relatively large quantity of natural to gain antiknock value for the finished motor fuel blend without exceeding normal vapor pressure maximums.

This desire to increase antiknock values through the use of natural is, of course, defeated in part by stabilizing the natural to the lower vapor pressures but the buyers have been successful in getting both relatively high-octane value and low vapor pressure when the demands were made, and the premiums paid for such material have not been excessive.

However, the mere practice of paying premiums for natural gasoline of high-octane blending value has led manufacturers to become more conscious of the desirability to produce these grades. Since most manufacturers are limited by vapor pressure requirements from building up these values by modifying the butane content of their production, there is a growing interest being manifested in physical and chemical means for converting the normal production to something better.

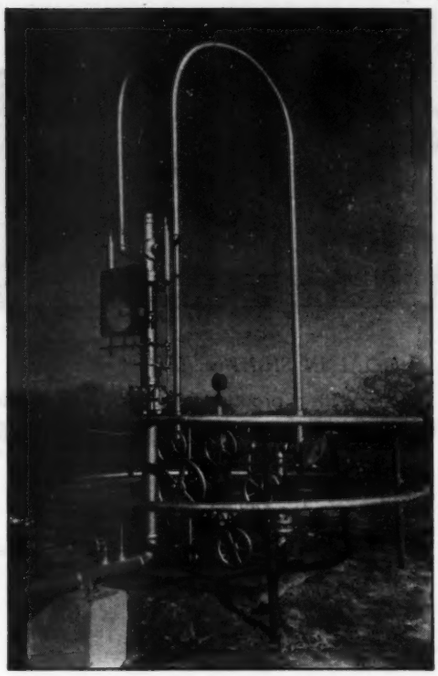
In the search for means to bring about this change, polymerization naturally suggests itself and evidence of this interest is reflected in the program of the meeting of the Natural Gasoline Association of America being held in Tulsa this week. Catalytic and thermal polymerization are discussed in two papers and apparently the principal interest in the various processes lies in the matter of plant investment and economic size of polymerization plants. The suggestion has been made that the industry consider making isopentane as a natural gasoline product in competition with isooctane, the product of highest octane blending value now readily available on the mar-

Change in Plant Capacities by States for Two-Year Period

	No. plants		Daily capacity (gallons)	
	1939	1938	1939	1938
Arkansas	8	9	107,660	92,660
California	101	105	3,047,300	3,106,805
Colorado	1	1	6,000	6,000
Illinois	30	28	27,826	17,300
Kansas	17	18	327,270	338,270
Kentucky	3	3	35,500	35,500
Louisiana	27	30	470,620	532,720
Michigan	3	3	22,500	19,500
Montana	1	1	16,000	16,000
New Mexico	6	6	200,000	208,000
Ohio	11	11	47,600	48,600
Oklahoma	120	138	2,135,960	2,162,610
Pennsylvania	85	92	99,243	91,030
Texas	151	144	3,904,350	3,735,250
West Virginia	82	84	349,852	364,962
Wyoming	6	7	84,800	113,300
Total	652	680	10,882,481	10,888,507

Note—May 1, 1939, includes 38 plants with 264,325 gallons daily capacity listed as shut down. May 1, 1938, includes 47 plants with 211,730 gallons daily capacity listed as shut down.

in the Operation Gasoline Plants



Typical connections on a distillate well

Trend of Operations

	No. of plants	Daily capacity (gallons)
May 1, 1939	652	10,882,481
May 1, 1938	680	10,888,507
May 1, 1937	710	10,691,352
May 1, 1936	841	10,083,687
May 1, 1935	850	9,909,797
May 1, 1934	882	10,241,989
May 1, 1933	919	10,308,354
May 1, 1932	948	10,536,182
May 1, 1931	987	10,531,511
May 1, 1930	1,071	9,541,320
May 1, 1929	1,124	8,695,727
May 1, 1928	1,229	7,865,652
May 1, 1927	1,148	6,947,264
May 1, 1926	1,063	5,121,000
May 1, 1925	1,143	4,642,561
May 1, 1924	1,012	3,396,961

ket. Isopentane may be made in large quantities from natural gasoline and at relatively low cost. Its octane value is under that of isooctane but, because of lower cost of production of isopentane, larger quantities could be used.

Any concerted effort on the part of natural gasoline manufacturers to build up the octane values of their production through chemical means, such as polymerization, alkylation, isomerization, etc., will bring the manufacturing problems of the industry very close to those of the refining industry. For this reason the question is naturally raised, who should install the polymerization unit, the natural gasoline manufacturer or the refiner?

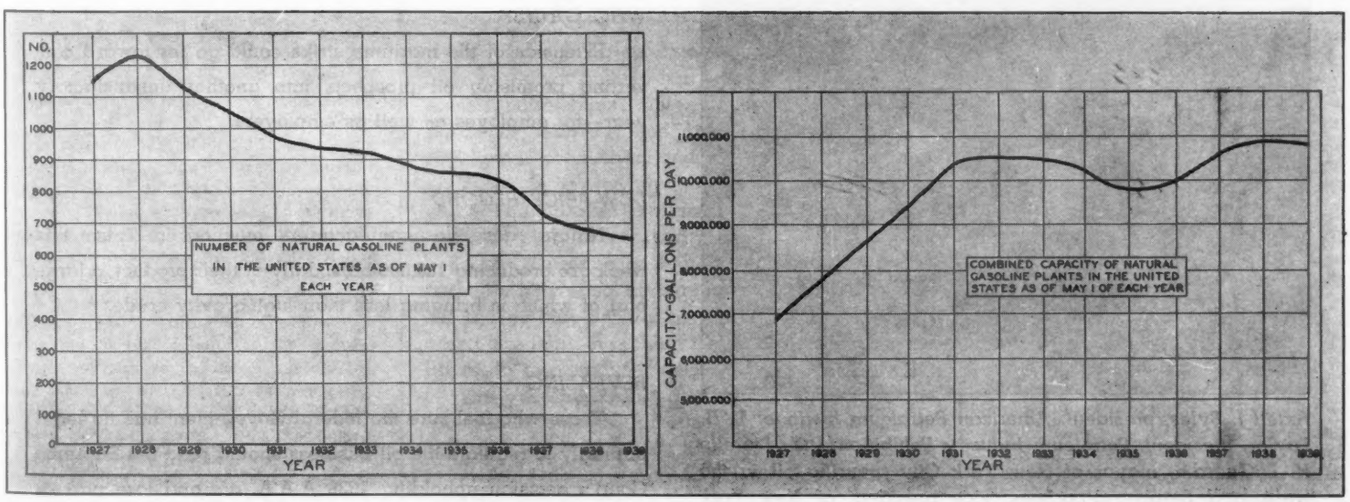
Obviously, each company's problem must be worked out upon the conditions existing within its operations but an important factor in all instances is that of economical unit size. If polymerization units may be economical to build and operate which have daily charging capacities as low as 200 bbls., the great bulk of the refineries could install them. If such units may be built with daily charging capacities of 50 bbls., the great bulk of the natural gasoline plants could consider adding them. The outcome of this must rest with time and the problem stands squarely before the chemists and engineers of the two industries and among the equipment companies.

While the demand for increasing the antiknock value of natural gasoline is becoming more pressing it does not represent the only important operating problem faced by the industry. Another important problem has been the utilization of high rock pressures where the residue gas was to be returned to the oil-bearing formations. Obviously, if the rock pressure is high and the residue gas must be returned to the formation at this high pressure, it would be of distinct advantage to process the gas under a relatively high pressure while the natural gasoline is being extracted. The result of many studies has been that gas is now being processed through absorption equipment at pressures substantially above those thought to be desirable only a few years ago. For example, 750 pounds per square inch was considered maximum for efficient absorber operation. Above this pressure the heat of absorption was considered excessive for efficient operation. In contrast with this, plants are absorbing efficiently under pressures of 1,200 to 1,500 pounds following dehydration of the gas. Another innovation has been utilization of high pressures for expansion and cooling to the extent that the natural gasoline is condensed out of certain high-pressure gases and the use of absorbers is dispensed with.

Other refinements in the operation of natural gasoline plants include the practice of redistilling the used absorption oil and the extended application of the closed water cooling system which depends upon forced draft to effect evaporation and cooling in contrast with water sprays and ponds.

Distillate Plants

In the more recent months, some members of the natural gasoline industry have been faced with another problem, namely the recovery and marketing of distillate. The term "distillate" is well known as it is applied to the condensate recovered from high-pressure gas wells. These wells are located at scattered points along the Gulf Coast and the problem of producing the gas, recovering the condensate and utilizing the residue for repressuring, calls for the correlated efforts of the natural gasoline and oil-production divisions of the industry. Because the methods of repressuring essentially include recovery of the condensate from these wells, the equipment or plant usually employed in the work follows pretty closely the general plan of erecting the ordinary absorption gasoline plant with the one notable exception that all parts are designed to handle much higher pressures.



While the number of gasoline plants have declined the capacity of the industry has tended to increase over a period of 12 years

SPARKS FROM THE NEWS

GOAL IN SIGHT

With a production of 185,400 bbls. daily last week Illinois is not far from the projected 200,000 bbls.

MAY DEMAND

The B. of M. estimates May domestic gasoline demand will show gain of 7 per cent over May, 1938. Crude requirements will be less.

THE REASON

The increase in gasoline demand this year is explained by the sale of 748,935 motor vehicles the first quarter, a gain of 40 per cent over same period last year.

LARGEST CONTRIBUTOR

"Petroleum is the greatest single influence in the tremendous advances made by civilization in the last century," said the junior Rockefeller at New York World Fair opening.

PETROLEUM AT THE FAIR

Axtell J. Byles, president, American Petroleum Institute; T. H. Taylor, president, Petroleum Industry Exhibition, Inc.; Fiorello H. LaGuardia, mayor of New York City (pouring oil in the well), and Stephen Voorhees, vice president of New York World's Fair

FOREST CITY'S FIRST

The first Forest City basin completion located in Johnson County, Kansas, is given a rating of 25 bbls. daily.

GAS ADDITIONS

Oil discoveries receive more general attention, but new natural gas areas are adding to California's large fuel reserves.

SMALL BUT ORDERLY

Developments in Shreveport field show that townlot and small tract development can be carried on in orderly manner.

CONSISTENT REPORTS

Every week brings reports of major refinery construction. This week it is an 18,000-bbl. cracking and coking unit for a Middle West plant.

NOT NEEDED

Last week's crude production was the highest since 1937 with exception of one week. Increased stocks show part of this output not needed.

AT LAST

After being rumored for three years, the attorney general at Washington officially announces a grand jury investigation of California's oil industry.

WHO GAINS?

Extension of the maritime strike could go far toward converting promising oil prospects into another unsatisfactory year—for employes as well as employers.

LOW-PRICE RECORD

Natural gasoline manufacturers meeting in Tulsa this week are producing 138,000 bbls. daily of their product, a large part of which is bringing less than high-gravity crude.

REVEALING

Those who feel sure the federal Government has no legal authority to regulate the oil business should read the Supreme Court's decision upholding 1938 A.A.A. act and lose part or all of their confidence.

J. A. LA FORTUNE

Dominant Factors Affecting Natural Gasoline Industry

By J. A. LA FORTUNE
President Natural Gasoline Association of America*

A year ago when preparing my address I felt the necessity of bringing to your attention the chaotic state of our industry, as well as other industries, which I felt was due to the inconsistencies and the obviously unsound experimental policies of those individuals holding responsible positions in our Government. The past 12 months have witnessed a decided change, not only in word but in action, by those same individuals, and for once we are again regaining some of the faith so necessary for the development of sound advancement and some degree of prosperity. At the present moment hardly a day goes by but some new plan for coddling business hatches in the White House or blossoms under the Capitol dome—a plan for tax revision or for taking some starch out of labor, for loosening credits or making peace between government and some especially ruffled branch of business such as the utilities.

Now that this change is taking place it should be our constant thought, since we are a part of this great country and therefore have an obligation to perform, to exert our best efforts and intelligence toward speeding up the wheels of progress and advancement. Such a statement is vague unless sufficiently explained, therefore, may I suggest that each of us make up our minds to do our job well, improve constantly on the method of execution, and think and talk better times. Get optimistic and keep optimistic because improved conditions are not only coming—they are here.

We may expect higher prices for our product, perhaps not 1 or 2 cents per gallon average over the year, but at least an increase of from 10 to 20 per cent, which to many will represent the difference between a profit and a loss. In making the above statement, am I too optimistic? Should I build up a beautiful picture only to see it collapse? That such a thing is possible no one can deny but, again, looking at the fundamentals that govern our business lower prices seem quite remote.

What are these fundamentals? I would say that there are three major factors that affect our particular industry; i.e., governmental policies or regulation, production and consumption. Briefly analyzing the first, as stated above, a change in the attitude of those in power, who now appreciate that industry can not be attacked, maligned or regulated to death and still produce prosperity. After all, industry consists of individuals like ourselves. Encourage and promote good opportunities and we immediately react to same, but remove the incentive for gain or progress and we suddenly wonder to ourselves —why strive? Why the effort? It is this optimistic and safer feeling, which has replaced the fear in the minds of millions of Americans, that is and will continue to bring about improved conditions generally.

*Before N.G.A.A. annual meeting, Tulsa, 1939.

Production

Now touching on the second fundamental—production of natural gasoline. During the past year we have not maintained the 1937 level as far as total production is concerned, and the prospects appear quite remote for any real increase during 1939. With oil production being regulated as it is, the output of new gasoline plants will probably just offset the normal decline of the older plants. Right now I can think of nothing that might possibly bring about an overproduction this year.

Let us then consider consumption and possible utilization of natural gasoline. The bulk of natural gasoline is moved or sold through three channels: the jobber, the refiner, and foreign markets. The ever-increasing demand for higher octane motor and aviation gasoline is forcing the refiner to look for raw products that contain high volatile fractions, such as propane, isobutane, butane, isopentane and pentane. Properly utilized in polymerization or efficient refining plants these hydrocarbons, which are so abundantly present in natural gasoline, produce higher octane blending stocks for the finished products than can generally be obtained when using less volatile raw materials.

It is due to this factor that the true value of natural gasoline is becoming more pronounced each year. Refiners, who for years refused even to consider the possibilities of our product, have during the past 12 months entered into contracts to take large quantities of natural for their future use.

In manufacturing a raw product that is to be used primarily by the refiner and exporter, it must be remembered that there are two factors of importance to the buyer, one is quality and the other price. We, as the manufacturers, must be governed accordingly. If the quality is satisfactory and the price too high, then the buyer will seek and find a substitute. If the quality is poor, even though the price is low, a decreased demand will be the result. We should therefore strive for a happy medium by exerting every effort to manufacture a quality product as economically as possible, and to secure a price that will prove profitable but yet not exceed its value to the buyer.

I would like to call to your attention the progress that has been made with regard to stabilizing the marketing of natural gasoline. You are probably aware that natural gasoline is a seasonal product, which brings about excesses and shortages during the course of a year. Three major accomplishments have done much to stabilize the industry in this respect. First, increased storage facilities at plants and terminals; second, deliveries of natural gasoline into crude and gasoline pipe lines, and, third, increased export outlets via full and part cargoes. The first relieves the tankcar market in the event that there are no buyers for our product, the second removes a portion of the natural gasoline production from the open market entirely, and the third factor is the export buyers who handle that portion which would exist between production and total refinery demand, and which in years gone by brought about very low prices for a valuable product.

The natural gasoline industry in the

(Continued on Page 34)

Fundamentals

Looking at the fundamentals that govern our business lower prices seem quite remote. What are these fundamentals? Three major factors affect our particular industry; i.e., governmental policies or regulation, production and consumption.

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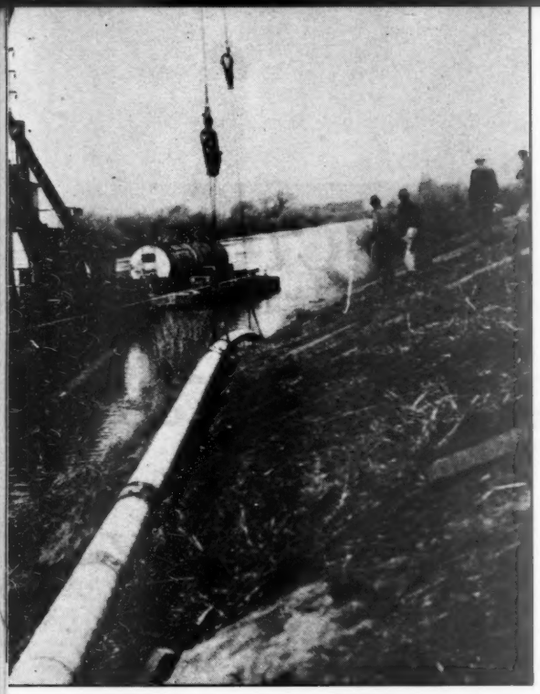


Laying 8-inch gas line across San Joaquin River at Whiskey Slough, California

California Gas Opening New

By L. P. STOCKMAN

Introduction of natural gas during the past decade into the San Francisco Bay region, including Sacramento, Stockton and other numerous towns in that area, and extension of natural gas transmission lines southward from Los Angeles to San Bernardino, Riverside and San Diego, marked an important epoch in commercial activities in California and stimulated aggressive exploration work in areas showing promise of containing commercial gas deposits.

As a result of the expansion of natural gas markets and the resulting search for gas fields, prospectors found eight commercial gas fields, Buena Vista Lake, Buttonwillow, Delano (Trico), Goleta, McDonald Island, Rio Vista, Semi-Tropic, Tracy, and one of questionable value, Chowchilla, and another, Willows, in Glenn County, that shows some promise with additional development. The Potrero Hills gas field of Solano County and the Marysville Buttes gas field have not been sufficiently developed to determine their possibilities from a commercial standpoint.

Natural gas has come into such general use throughout California for domestic consumption and utilization in various manufacturing industries that it is an important factor contributing to the general economic status of the Pacific Coast. As gas produced in oil fields is given priority in utilization, the various dry gas fields have, up to the present, been on a semiproductive basis with production being limited to a relatively short period each winter when peak consumption is reached. A few fields are permitted to produce a restricted quantity when it is needed. This type of field fills an urgent need and provides a sustained production of dry gas without affecting production of crude. A substantial reserve of gas has been built up by the discovery of these commercial gas fields, assuring domestic consumers and commercial enterprises of an ample supply of gas for years to come. As time goes on, California's dry gas fields will assume more importance, especially with the decline in flush production of crude oil.

This is the first of a series of articles describing natural gas development in California.

The several dry gas fields discovered in California are in three widely separated geographic areas. These districts comprise the San Joaquin basin, the coastal basin along the sea coast, and the area immediately adjacent to the San Francisco Bay region. The Rio Vista, McDonald Island and Tracy gas fields are in the latter area and are especially important because of their proximity to areas of large consumption.

Rio Vista Gas Field

Rio Vista gas field was discovered by geological mapping and a reflection seismograph survey. It has the highest calorific value of any dry gas produced in California, and is the largest gas field in the state from both a reserve standpoint and proved acreage. The field contains a minimum of 5,000 acres, and the outer limits of production have not yet been determined. The gas field is near the town of Rio Vista, in Solano and Sacramento counties, about 45 miles northeast of San Francisco, 30 miles south of Sacramento and 25 miles northwest of Stockton.

The discovery well was Amerada Petroleum Corp. No. 1 Emigh, completed June 18, 1936, flowing 81,000,000 cu. ft. through a 96/64-inch bean, with 1,565 pounds tubing and 1,550 pounds casing pressures. Top of the Emigh zone was encountered at 4,292 feet and continued to 4,485 feet. Original shut-in pressure was 1,715 pounds. No. 1 Emigh was finished with an 11¾-inch water string landed at 4,278 feet and a 6⅝-inch liner including 215 feet of perforated. Fifteen wells have been completed in the field and two widely-spaced wells, one drilled by Texas Co. and Standard Oil Co. and one by Superior Oil Co. of California have been completed in Sacramento County. Performance of the Texas-Standard well indicates it was completed in a different reservoir from the other wells.

Twenty-three gas wells and two dry holes have been drilled in the field. These are:

	Gas wells	Dry holes
Amerada Petroleum Corp.	17	1
Standard Oil Co.	2	1
Texas-Standard	1	0
Superior Oil Co.	1	0
Tracy Drilling Corp.	2	0

From the surface to approximately 2,000 feet fresh water formations are encountered. Below these and to approximately 3,800 feet is found the Markley formation of Oligocene age, correlated with the Kreyenhagen shale of the southern San Joaquin Valley. It is a highly siliceous, radiolarian shale resembling the Kreyenhagen very closely in its physical characteristics.

The producing zone, locally known as the Emigh zone, which attains a maximum development of 350 feet and is encountered at about 4,000 feet, is of Eocene age. The upper one-third is correlative with the green glauconitic sands of

WELLS DRILLED IN RIO VISTA GAS FIELD

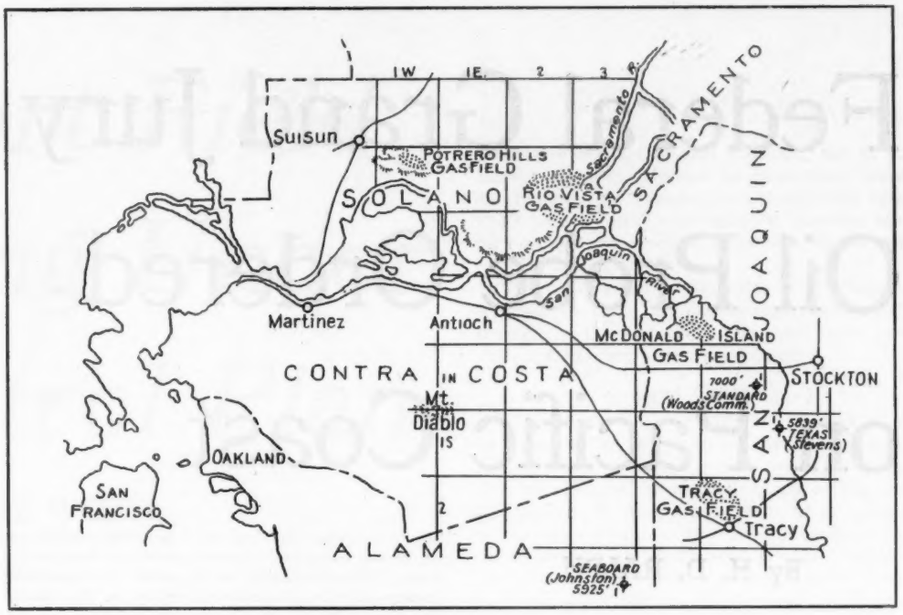
Solano and Sacramento Counties, California

Company and well number—	Location S.T.R.	Effective—Total	Effective—Effective	Status	Initial production M.c.f.	Date completed
Amerada Petroleum Corp., No. 1 Emigh	26-4-2	4,485	Same	Discovery well	81,000	June 18, 1936
Amerada Petroleum Corp. No. 2 Emigh	26-4-2	4,505	Same	Gas well	41,500	April 27, 1937
Amerada Petroleum Corp. No. 1 Drouin	26-4-2	4,500	Same	Gas well	42,750	February 11, 1937
Amerada Petroleum Corp. No. 2 Drouin	26-4-2	4,463	Same	Gas well	25,700	April 6, 1937
Amerada Petroleum Corp. No. 1 J. C. Hamilton	24-4-2	4,429	Same	Gas well	43,125	July 28, 1937
Amerada Petroleum Co. No. 1 M. Hamilton	26-4-2	6,791	4,507	Gas well	44,250	December 31, 1936
Amerada Petroleum Corp. No. 1 Happe	26-4-2	7,029	Same	Abandoned	None	October 15, 1936
Amerada Petroleum Corp. No. 1 Marks	24-4-2	4,450	Same	Gas well	42,250	May 22, 1937
Amerada Petroleum Corp. No. 2 Marks	24-4-2	4,475	Same	Gas well	37,500	June 9, 1937
Amerada Petroleum Corp. No. 1 Mayhood	35-4-2	4,533	Same	Gas well	26,000	March 16, 1937
Amerada Petroleum Corp. No. 1 E. D. Mayhood	36-4-2	4,345	Same	Gas well	37,250	April 1, 1938
Amerada Petroleum Corp. No. 1 Serpa	23-4-2	4,476	Same	Gas well	40,150	January 4, 1937
Amerada Petroleum Corp. No. 1 Triqueriro	24-4-2	4,426	Same	Gas well	4,250	July 1, 1937
Amerada Petroleum Corp. No. 1 Sacramento	26-4-2	4,347	Same	Gas well	40,000	October 17, 1937
Amerada Petroleum Corp. No. 1 Deterding	36-4-2	4,457	Same	Gas well	875	January 8, 1938
Amerada Petroleum Corp. No. 1 McCormick	1- 3-2	4,385	Same	Gas well	13,650	February 13, 1938
Amerada Petroleum Corp. No. 1 S. & S. J.	18-4-3	4,397	Same	Gas well	12,000	May 25, 1938
Amerada Petroleum Corp. No. 1 Nell Hamilton	36-4-2	4,450	4,393	Gas well	10,000	August 23, 1937
Standard Oil Co. No. 1 Neal Anderson	27-4-2	4,768	Same	Abandoned	None	October 25, 1936
Standard Oil Co. No. 1 Perry Anderson	35-4-2	4,544	4,520	Gas well	3,550	August 23, 1936
Standard Oil Co. No. 2 Perry Anderson	1-3-2	4,458	Same	Gas well	31,650	April 29, 1938
Superior Oil Co. No. 1 Reclamation	7-3-3	3,883	Same	Gas well	35,700	November 5, 1938
Texas-Standard No. 1 Midland fee	4-3-3	4,030	Same	Gas well	24,500	July 3, 1938
Tarcy Drilling Co. No. 1 Hanson	25-4-2	4,415	Same	Gas well	39,500	October 15, 1937
rTacy Drilling Co. No. 2 Hanson	25-4-2	4,380	Same	Gas well	38,700	January 10, 1938

Fields Epoch

the Domengine formation and the lower two-thirds is correlated with the glass sand found in the Ione formation at its outcrops along the borders of the San Joaquin Valley to the east and southwest of the field. The Domengine sands are relatively fine-grained, fairly well cemented glauconitic material having an average porosity of 18 per cent. The sands in the Ione formation are almost pure white, coarse-grained and have porosities approaching 35 per cent. Permeability in the white sand is quite high, both parallel to and across the bedding plane. The sand in the total zone varies from well to well but averages approximately 65 per cent of the zone thickness.

All of the wells have had high initial flows with drawdown pressures, the performance of the discovery well being typical. The larger acreage is owned by Amerada Petroleum Corp., Standard Oil Co., Texas Co. and Superior Oil Co. in the order named. Tracy Drilling Corp. drilled its two wells on a small parcel in Solano County. Outlet is through Pacific Gas & Electric Co. 12-inch line to a point 8 miles northwest, where it has two 10-inch branches, one tying into its North Bay district system at Napa Junction, and the other going north to Woodland and Sacramento. The line has been in operation since September, 1937.



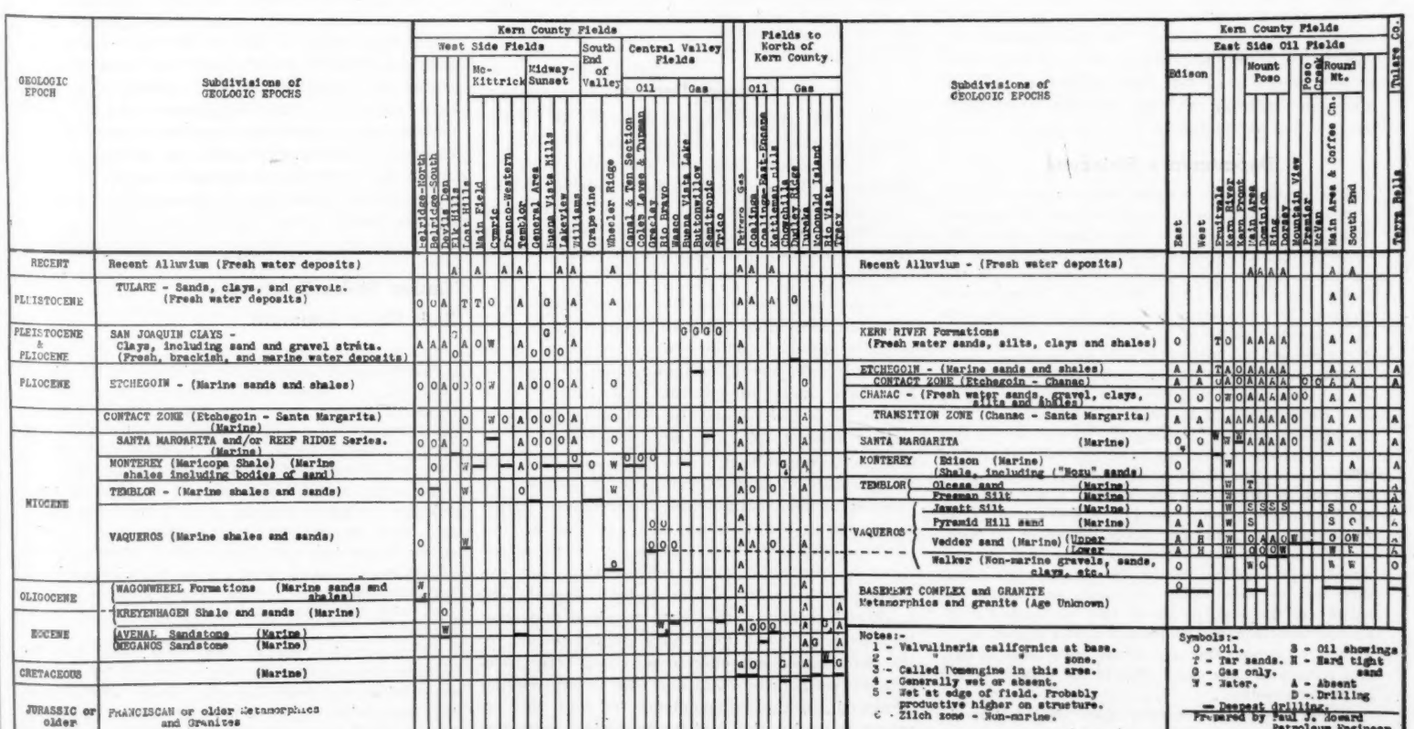
Gas fields in the San Francisco Bay region

The calorific value of the gas is 1,040 B.t.u., the highest of any dry gas in California. It is approximately 96 per cent methane and 3 per cent ethane, with the balance of higher hydrocarbon fractions and inert gases. The field is now used as a source of supply for the towns of Woodland, Dixon, Fairfield and Vallejo, as well as for the cities and towns served by Pacific Gas & Electric Co., San Rafael, Sausalito, Petaluma and other communities in the North Bay district. In addition, it is from time to time used to supplement the supply for other cities and towns which draw chiefly from the southern San Joaquin Valley fields.

Potrero Hills Gas Field

The Potrero Hills gas field is in Solano County 40 miles northeast of San Francisco, approximately midway between Sacramento and San Francisco. The structure coincides in general with the contours of an isolated, low-lying range of hills which rise from Suisin Bay at sea level to an elevation of 428 feet. The range is elliptical in shape, and is about 5 miles long and 2 miles wide. The structure has been mapped by many geologists and has been exceedingly interesting because of its structural and stratigraphic problems, and because of its recognized productive possibilities. Gas seepages have long been recognized, one resulting from a hand augur hole drilled in 1896 to 120 feet, near the site of Richfield Oil Corp. discovery well. Prior to the drilling of the Richfield well, one unsuccessful test was made on the structure about a mile west by Honolulu Oil Corp. It was drilled with cable tools

(Continued on Page 137)


GEOLOGIC EPOCH
Subdivisions of GEOLOGIC EPOCHS
Kern County Fields
West Side Fields
South End of Valley
Central Valley Fields
Oil
Gas
Fields to North of Kern County
Oil
Gas
Tulare Co.
Edison
Mount Poso
Round Mt.
Terra Bella
RECENT
Recent Alluvium (Fresh water deposits)
PLEISTOCENE
TULARE - Sands, clays, and gravels. (Fresh water deposits)
PLEISTOCENE & PLIOCENE
SAN JOAQUIN CLAYS - Clays, including sand and gravel strata. (Fresh, brackish, and marine water deposits)
KERN RIVER Formations (Fresh water sands, silts, clays and shales)
PLIOCENE
ETCHEGOIN - (Marine sands and shales)
CONTACT ZONE (Etchegoin - Chanac)
CHANAC - (Fresh water sands, gravel, clays, silts and shales)
CONTACT ZONE (Etchegoin - Santa Margarita) (Marine)
TRANSITION ZONE (Chanac - Santa Margarita)
MIOCENE
SANTA MARGARITA and/or REEF RIDGE Series. (Marine)
SANTA MARGARITA (Marine)
MONTEREY (Mariscpe Shale) (Marine shales including bodies of sand)
MONTEREY (Edison (Marine) (Shale, including ("Hoxu" sands)
TEMBLOR - (Marine shales and sands)
TEMBLOR (Olcese sand (Marine)
Freeman Silt (Marine)
VAQUEROS (Marine shales and sands)
Jewett Silt (Marine)
Pyramid Hill sand (Marine)
VAQUEROS (Vedder sand (Marine) (Upper / Lower)
Walker (Non-marine gravels, sands, clays, etc.)
OLIGOCENE
WAGONWHEEL Formations (Marine sands and shales)
KREYENHAGEN Shale and sands (Marine)
BASEMENT COMPLEX and GRANITE Metamorphics and granite (Age Unknown)
EOCENE
AVENAL Sandstone (Marine)
OMEGANOS Sandstone (Marine)
CRETACEOUS
(Marine)
JURASSIC or older
FRANCISCAN or older Metamorphics and Granites
Notes:-
1 - Valvulineria californica at base.
2 - " " some.
3 - Called Domengine in this area.
4 - Generally wet or absent.
5 - Wet at edge of field. Probably productive higher on structure.
C - Zilch zone - Non-marine.
Symbols:-
O - Oil. S - Oil showings
T - Tar sands. H - Hard tight sand
G - Gas only.
W - Water. A - Absent
D - Drilling
— Deepest drilling.
Prepared by Paul J. Howard Petroleum Engineer Dec. 14, 1938.

Geological horizons of oil and gas fields

Federal Grand Jury Oil Probe Ordered on Pacific Coast

By H. D. RALPH

WASHINGTON, D. C., May 1.—The results of the long-pending antitrust investigation of the oil industry on the Pacific Coast will be presented to a grand jury in Los Angeles in the near future, it was announced today by Thurman Arnold, assistant attorney general. The grand jury will be presented with evidence of alleged monopolistic practices in the distribution of petroleum products which has been gathered by agents of the Department of Justice and the Federal Trade Commission during the past three years, particularly with respect to price advances in April 1936 and March 1937.

The grand jury investigation is part of the new policy of the Department of Justice in speeding up antitrust cases. Attorney General Frank Murphy has prepared a detailed statement explaining the policy and announced that a number of new cases would be brought at once. Several will involve the motion picture industry, but so far as can be learned no other oil cases in addition to the West Coast investigation are planned for the immediate future. The department's investigation of oil marketing in the East Coast area is still under way but little progress is being made and officials will not forecast when there may be new developments.

Department's Statement

The department's announcement follows:

The Department of Justice will begin in the near future an inquiry before a federal grand jury in the southern district of California with reference to alleged monopolistic practices by oil companies in the Pacific Coast area in the distribution of petroleum products. This statement is issued in accordance with the established policy of the department to make public its reasons for instituting such an inquiry.

The major oil companies produce 84 per cent of the gasoline refined and distribute 85 per cent of the gasoline marketed in the Pacific Coast area. In 1936 the price of gasoline rose sharply throughout the Pacific Coast area, and it has since exhibited a stability without precedent in the area. By reason of two price advances in April 1936 the majors' retail price for third structure gasoline in Los Angeles went from 7½ cents to 12 cents per gallon, exclusive of taxes; on first and second structure gasoline the advance was 4 cents a gallon. At the same time prices on all three grades were raised 4½ cents throughout the balance of the area. In March 1937 the majors made an additional advance of one-half cent a gallon on all grades throughout the area. There have been no general reductions since April 1936 in the majors' posted prices for gasoline.

These price advances have made the practices in the Pacific Coast area the subject of complaints and government investigations extending over a considerable period. The complaints have charged that by resort to various practices all substantial competition in the marketing of petroleum products is being eliminated. A comparatively small number of companies occupy such a predominant position in the Pacific Coast oil industry, that concerted action to restrict competition may easily place in the hands of a few companies the power to fix monopolistic prices. Under such circumstances and in view of the well-known importance of petroleum products, it is the duty of the department to exercise extreme vigilance and to take vigorous action whenever it appears that current practices definitely restricting competition may be the product of concerted action.

An earlier investigation by the department, following complaints of monopolistic practices, resulted in the entry of a consent decree on September 15, 1930, against a number of the Pacific Coast oil companies. In 1936 the Federal Trade Commission at the request of the attorney general investigated complaints charging that monopolistic practices similar to those which led to the 1930 decree were being resorted to. As a result of the facts reported by the commission, the department in November 1937 undertook a comprehensive field investigation.

The purpose of the inquiry before the grand jury is to present the facts obtained in the course of the investigations conducted by the department and the Federal Trade Commission as well as such other facts as may appear to be pertinent, in order to ascertain whether prosecutions for violation of the antitrust laws should be had.

Consent Decree

The 1930 consent decree referred to in the statement involved 19 oil companies operating in the Pacific Coast area and was entered in the southern division of the northern judicial district of California. The fact that the new case is being brought in the southern district suggests that more is involved than simply enforcement of the 1930 decree.

Under that decree the 19 companies and F. R. Long, an individual defendant, agreed to be perpetually enjoined and restrained from directly or indirectly conspiring to monopolize or restrain interstate trade in gasoline. Specifically they agreed to refrain from the following practices, among others: Making any understanding to eliminate competition as to prices of gasoline; fixing uniform and noncompetitive prices; increasing or decreasing prices by agreement; agreeing to refuse to sell to any dealer on the ground that the dealer refuses to abide by resale prices fixed by the defendants; representing that the trade practice rules of the Federal Trade Commission in effect at that time required nonsignatory dealers to sell gasoline at prices posted by the defendants; agreeing to purchase from independent refiners on condition that other gasoline produced by the independents be sold only at prices fixed by the major companies; inducing retailers not to quote prices other than those fixed by the defendants.

(c) Harris &

Robert E. Freer, chairman, Federal Trade Commission, interested in oil inquiry

In commenting on his explanation of antitrust policy, Attorney General Frank Murphy declared there will be no backtracking and enforcement will be vigorous, but instead of proceeding blindly the department will be discriminating with the objective of making the antitrust laws constructive rather than destructive. Cases will be handled with dispatch and long-standing cases will be wound up as soon as possible either through trial, dismissal or reindictment. He added there is no excuse for the department having long-standing antitrust cases. Both criminal and civil action will be used, depending on how the public interest can best be served.

The Attorney General held out a promise that the department will be ready to hold conferences with any concern or industry desirous of knowing how to conform to the antitrust laws but declared the department will not permit itself to be hamstrung by advance conferences and this procedure will not mean any letdown in vigorous inforcement. It is expected the new procedure may result in a number of consent decrees in situations which otherwise might lead to criminal prosecutions.

Tanker Strike Continues; Both Sides Adamant

NEW YORK, May 1.—Disputants in the tanker strike remained adamant as the issue of a "hiring hall" clause in the new contract entered its third week. Picketing activity was expanded at North Atlantic ports. Placard-laden seamen invaded Rockefeller Plaza and two Times Square points in New York. There were approximately 1,000 demonstrators and they introduced the sit-down and lie-down strategy resulting in almost complete stoppage of sidewalk traffic. Three men were arrested, and later released when N.M.U. attorneys provided bail. Two or three pickets continued to parade before entrances to the buildings housing Standard of New Jersey, Socony-Vacuum Oil Co., Inc., Tide Water Associated Oil Co., and the C. D. Mallory Co.

Transportation requirements were being met by tankers owned by the companies manned by replacement crews and from the open tanker charter market. Declarations on the number of tankers tied up at various Gulf Coast and North Atlantic ports varied widely because boats were sailing as soon as replacement crews could be arranged.

Shreveport Field Developing Under New Control Plan

By GEORGE WEBER

SHREVEPORT, La., May 1.—A steady increase in drilling activity is bringing the Shreveport field of Caddo Parish, into importance in the oil development of North Louisiana. Aided by a newly ordered control plan, and an increase in the crude price, development of this pool is expected to accelerate considerably during the next few weeks.

Although the field was discovered in July 1938, its development has been comparatively slow, with a total of 20 oil wells thus far. Conservation provisions have been lacking and control of drilling and production practices has been on a temporary basis.

With the recent issuing of a field order on Shreveport, however, the Louisiana Department of Conservation has placed current and future operations on a settled basis. The order incorporates several notable points, chief among which is the method of allocating production on an acreage times pressure basis, in place of the usual acreage plus pressure factor. In addition, the dissipation of reservoir energy through production of large volumes of gas is now halted with the placing of a limit on the allowable gas-oil ratio for producing wells. Under provisions of this order much-needed bottom-hole pressure surveys and gas-oil ratio tests will be maintained to reflect the trends in the field and serve as bases for allocating equitable production schedules.

The crude price increases, which the two purchasers in the field granted on March 11 and 13, respectively, raised the price of crude in the field from 95 cents to $1.01 per barrel. These increases were granted as a result of two advances of one-eighth cent in the local gasoline market, and it is anticipated that further gasoline price advances may be followed by crude hikes in the field.

The Shreveport (or Cross Lake) pool came into prominence upon its discovery, principally due to the fact that it lies in the environs of the city, and the subdivided character of much of the probable productive acreage indicated the possibility of close, townlot drilling. To those operators who were familiar with Pettit lime production, the example of the Lisbon field of Claiborne Parish made it obvious that the Shreveport field could not be profitably developed on less than a 40-acre drilling pattern. The 40-acre pattern, although not fixed for acreage within the city limits, was followed with few exceptions, due to close cooperation between operators and local conservation department engineers and as a result the field has a well-ordered drilling pattern on the 40-acre spacing rule of the new order.

The problem of unitization and pooling small tracts into 40-acre drilling units is also simplified by the provisions of the order. The acreage underlying Cross Lake, upon which the state holds mineral rights, will be unitized with water-front acreage in filling out the 40-acre drilling units, but no drilling in the lake bed is anticipated in the near future. Precautions against pollution of the reservoir, used as a water supply for Shreveport, may prevent submerged drilling. The field, however, appears to lie generally to the south and east of the lake, and comparatively little acreage may be proven in the lake bed.

Little is known at the present time of the pressure trend in the Pettit lime reservoir of the field. A few bottom-hole pressures were taken on early wells, but the lack of periodic surveys prevents a study of the effect of production thus far in the pool's history. That the production of large volumes of gas in some high gas-oil ratio wells, due to a lack of proper state control, was harmful to the field, few will deny. The effect is noticeable, however, in the reduced pressures and potentials of wells completed in the area surrounding such large producers.

On present data, a pressure contour map of the field shows only a general gradient extending northeast-southwest in the southern portion. The field contoured on the top of the Pettit lime shows a present extent of roughly 3,600 acres. However, one of the dry holes is located a half mile north of present production, and the field is not closely limited in any direction. Approximately 60 locations have been proved productive according to the present picture, and 11 wells are being drilled. Further drilling to the east may disclose much productive acreage in that direction, but at its current stage this cannot be more than hoped for. Furthermore, the character of the Pettit lime, which shows little uniformity in porosity and permeability, may require corrections in the contours as now plotted.

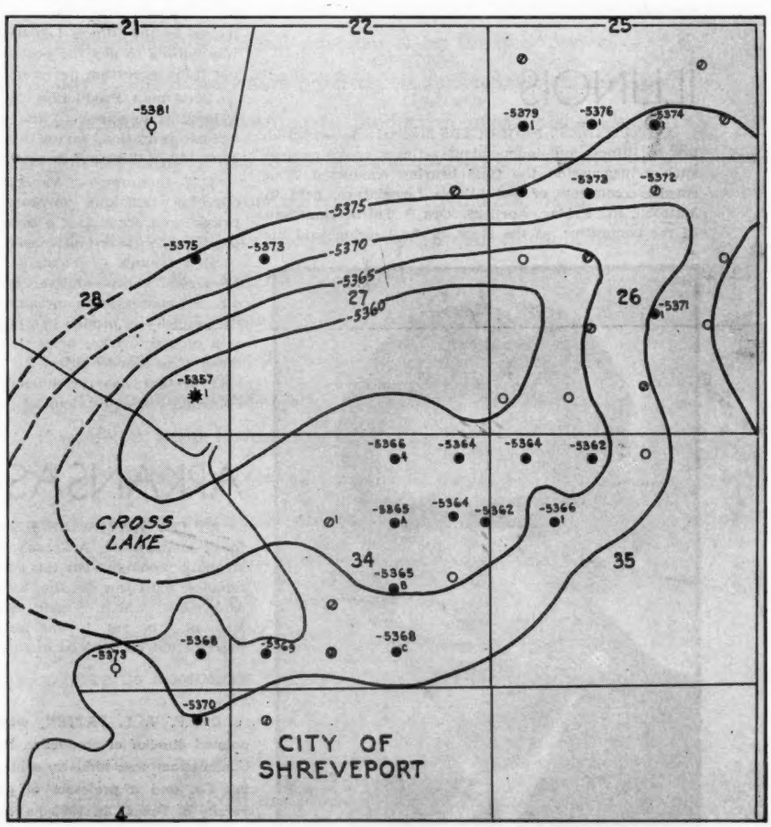
The total daily field allowable for Shreveport is based on three factors: acreage, bottom-hole pressure and gas-oil ratio. The field order provides for its computation as follows:

Field Order

"The acreage allocated to each oil well shall be multiplied by its bottom-hole pressure to compute the acre pounds for each well. The total acre pounds shall be ascertained by adding the acre pounds, as determined above, of all poducing oil wells. The total daily field allowable shall be divided by the total acre pounds, and the quotient of such division carried out to five decimal places shall be the daily allowable oil production factor for each acre pound.

"The daily oil allowable for any well shall be determined by multiplying the daily allowable oil production factor for each acre pound by the number of acre pounds computed for said well; provided, however, that if the application of these rules and regulations results in the total actual daily production from the field being substantially less than the total daily field allowable, the commissioner may reallocate consistently with the principle here adopted, the allowable production in such a manner as to make the actual daily production substantially equal to the daily allowable production of the field; and further provided, however, that no well shall be given an allow-

(Continued on Page 32)



Contours of the Shreveport field on top of the Pettit lime, producing member of the lower Glen Rose formation

STATE CAPITALS

TEXAS

STATE-WIDE OIL FIELD SHUTDOWNS of six days during each of the months of May and June were announced by the Railroad Commission of Texas. The order was signed by all three commissioners after approval of the engineering staff.

The commission said the state's basic May allowable, deducting for the six shutdowns, would be 1,398,077 bbls. per day, or 13,023 bbls. under the Bureau of Mines estimate.

The May allowance, not considering shutins, was set at 1,699,336 bbls. daily, compared with 1,698,396 bbls. April 1 and 1,720,666 bbls. April 14.

During May and June, fields will be shut down on all of the Sundays and half the Saturdays. In April they were closed only on Sundays.

The commission calculated that the basic June daily allowable, after deducting for the four Sunday and two Saturday shutins, would be 1,402,868 bbls. The Saturday closings will come during the first two weeks of each month.

TEXAS OIL PRORATION LAWS will continue in force another two years to September 1, 1941, under a house bill which passed the senate 23 to 6.

Under the bill the Railroad Commission will be uninterrupted in fixing oil allowables of the various pools and fields in Texas, as it has been doing for some years. It will continue to have the right to consider market demands for Texas crude in fixing the allowables.

CHAIRMAN LON A. SMITH of the Railroad Commission said April 27 that C. M. Langford, director of production in its oil and gas division, had been removed. Commissioner Sadler said Dr. F. V. L. Patten had been promoted to succeed Mr. Langford, who had been director of production about three months after being assistant to V. E. Cottingham, who resigned to become engineer for an association of West Texas operators. Mr. Langford recently testified in a federal court attack on an oil proration order that he had counseled Mr. Smith and Mr. Sadler against a severe allowable reduction in certain pools, which later was rescinded in part.

ILLINOIS

INDEPENDENT PRODUCERS favored a conservation law in Illinois and independent refiners spoke against such a measure at the final hearing conducted by a special committee of the Illinois Legislature, held in Mattoon, Ill., Friday, April 28. Ora P. Tuttle, chairman of the committee, at the close of the hearing said his group would at once begin consideration of the testimony heard in Salem, Champaign, Centralia, and Mattoon meetings. With very few exceptions throughout the series of hearings, oil producers favored a conservation law and proration of production, while the objections came chiefly from small local refiners or from men wishing to establish plants close to the source of the crude oil.

A. R. Thompson of Mattoon, independent producer and royalty owner, was one of the first to testify at the Mattoon meeting. He said, "There is a need for regulatory legislation in Illinois to prevent dissipation of the oil resources." He indicated that "reasonable" proration was advisable and recommended the use of meters on oil wells. He said he was in favor of a gross tax on crude oil in Illinois with a portion to go to the state and a portion to revert to the counties, as a measure to eliminate tax assessments by individual counties. He said he believed in spacing of wells and a law to make Illinois pipe lines common carriers.

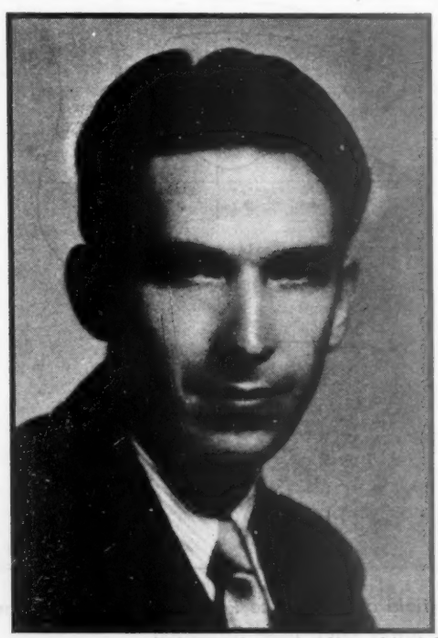
George M. Pfau of Texarkana, Tex., stated that he was ready to bring a "cracking" plant with 3,000 bbls. daily capacity into Illinois provided no proration bill is passed by the Illinois Legislature. He said his concern was willing to pay the posted price for oil, and he did not think proration necessary.

Cotterman Production Co., East Texas refiner, in a lengthy telegram to the committee, took a stand against proration, saying it had equipment ready for assembly in Illinois if no proration bill was inaugurated.

C. C. Cummings of Vandalia and Tulsa, independent operator, said that "proration is needed to protect prices" and urged that a commission be established by the state to govern oil conservation and production.

Ben Loomis of Vandalia, independent driller and producer's representative, testified that proration of oil as a conservation measure was necessary. He said the majority of producers would rather sell prorated oil at a regular market price than an abundance of oil at lower than market price.

Proration was recommended by C. F. Buckner of Centralia, vice president of W. C. McBride, Inc.



DR. F. V. L. PATTEN, who has just been appointed director of production for the Texas Railroad Commission, was formerly with Humble Oil & Refining Co. and a professor of petroleum at the University of Texas. In 1936 he was chosen to head a course of natural gas engineering at Texas College of Arts and Industries, Kingsville. Recently he has been director of research for the Railroad Commission.

ARKANSAS

AT ITS STATEWIDE HEARING held on April 25 in El Dorado, the Arkansas Oil and Gas Commission strongly recommended the adoption of pressure maintenance measures in the Village and Schuler fields. Allowables, which remain essentially unchanged for May, may be cut, it was intimated, should recycling practice not be adopted in flush fields in the future.

CALIFORNIA

THE STATEWIDE CONTROL BILL introduced in the California Legislature by Assemblyman Maurice Atkinson of Long Beach and assertedly sponsored by the C.I.O. was voted out of the assembly oil industries committee with a "do pass" recommendation, and is now before the legislature for final disposition. Changes were made in committee and instead of the controversial three-member committee the bill now provides that the law shall be administered by a committee of five men who must have had 10 years' experience in the oil business each. The committee added a provision prohibiting the transfer of allowables from one field to another, or between wells, and provided a stripper well allowable of 25 bbls. each per day. The bill gives the committee appointed the right to set allowables and regulate storage accumulations or withdrawals. This bill will be acted on by the legislature soon. In the meantime, the Central Committee is considering a new curtailment formula which provides a maximum allowable of 250 bbls. for large wells, the lifting of proration on wells producing 15 bbls. per day or less. Only two factors of depth and potential capacity would be used in determining the allotment, with the percentage of curtailment graduated upwards so that the larger the well the greater percentage curtailment required, with due allowance, however, for depth. The proposed formula would yield daily average production from all California wells of 587,000 bbls. Wells producing from a depth of 10,000 feet with a potential of 50 bbls. per day or less would be exempt from the new plan's provisions. It is estimated that about 500 wells in the state would come under provisions of the maximum allowable of 250 bbls. per day under the proposed new set-up.

L. L. AUBERT, GENERAL MANAGER, Bankline Oil Co., was elected president of the Oil Producers Agency of California at the annual meeting, April 26. He is also a member of the Central Committee of California Oil Operators, chairman of the allocation subcommittee of that group, and has been active in the American Petroleum Institute for several years. He is a director of the California Petroleum Safety Board and United Landowners Association, Inc.

Newly elected vice presidents are Maurice Machris, Bandini Petroleum Co.; James H. Lewis, Sunset Oil Co.; Angus Crites, Anchor Oil Co.; W. L. Adkisson, Taft Investment Co. The new secretary-treasurer is W. A. Russell, Seaboard Oil Corp. Rush M. Blodget was reelected executive vice president, and begins his eighth year as manager of the agency.

Directors elected were Neal H. Anderson, A. J. Crites, L. E. Doan, Robert Garrison, J. H. Lewis, Ralph B. Lloyd, Maurice Machris, Frank Travers, C. P. Watson, H. E. Woodworth, and Roy Young.

As a mark of appreciation for his services as president for the past year, Lloyd Williamson was given a token of appreciation by the board.

NEW MEXICO

NEW MEXICO ALLOWABLE PRODUCTION in May will be 113,100 bbls. per day, with 4,000 bbls. per day additional allowable for oil that will be exported. The maximum allowable production per well in the first half of the month was placed at 54 bbls. per day.

OKLAHOMA

ALLOWABLE PRODUCTION IN OKLAHOMA in May will remain at 428,000 bbls. per day according to the decision of the Oklahoma Corporation Commission.

LOUISIANA

MAY ALLOWABLE PRODUCTION in Louisiana will be 263,634 bbls. per day, of which North Louisiana is allotted 62,629 bbls. and coastal Louisiana 201,005 bbls. per day.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Watch the Four Per Cent

If an oil man was asked what was the production of the approximately 350,000 wells in this country last week he would reply that the total was 3,561,952 bbls. daily, having reference to the output of crude oil. Actually, the production of those wells totaled 3,699,000 bbls. a day of petroleum.

The difference of 138,000 bbls. daily represents the output of natural gasoline extracted from the casinghead gas produced along with the oil. This figure includes a small quantity of natural gasoline obtained from gas wells which do not produce crude oil.

This production of almost 50,000,000 bbls. of natural gasoline yearly is equivalent to the crude output of 15,000 average wells in the United States, or 4 per cent of the total. It also represents about 9 per cent of the motor fuel.

The oil business has paid too little attention to this 4 per cent of its total output represented by the production of natural gasoline. As low as prices have been, it makes a contribution of at least $75,000,000 yearly to the gross revenues of the oil industry. Outside the oil business there are many industries whose total turnover yearly is less but which are considered important units in our economic structure.

Except in California the prices received for natural gasoline have obviously been far too low. Last year, for instance, the principal grade in the Mid-Continent averaged 2.71 cents per gallon. This amounts to $1.14 a barrel or several cents less than the average price for crude oil for 1938. So far this year, the price has been still lower, the average return being just slightly above $1 per barrel.

In other words, here is a product that has been extracted from gas through compression and absorption, stabilized, chemically treated, and transported to the point of shipment, yet, the owner receives less than the posted price for raw crude.

Such a situation can not help but be unhealthy for the entire industry. One of the direct results has been that natural gasoline finds its way into the tanks of jobbers and dealers at prices which are substantially under the going market for refinery gasoline. This is an important factor in reducing refinery gasoline below the cost of production which, in turn, has a bearish effect upon the market prices of the whole industry.

It is reasonably certain that natural gasoline will be still more important in the total operations of the petroleum industry of this country in the future. The manufacture of natural gasoline is an integral part of any sound conservation program. In this connection, the extension of repressuring in production operations and the recycling of gas in the producing formations in order to obtain production not otherwise available, tend to increase the output of petroleum which comes within the specifications of natural gasoline.

There is evidence that in the near future it may be necessary to further refine this natural gasoline in order to make it acceptable as motor fuel. This is in line with the trend toward higher octane values.

These and other developments emphasize that the oil industry must pay more attention to the position and needs of the natural gasoline branch of its operations. An industry which ignores a division of its business which accounts for 4 per cent of its total supply does not have its operations on a hundred per cent sound basis.

One per cent or less may determine whether oil operations are satisfactory marketwise. Here is a branch accounting for four times that amount. Obviously, the industry as a whole should see that these operations are on a better price base in the future than in the past.

Petroleum Exhibition Is Feature of New York World's Fair

By H. STANLEY NORMAN

NEW YORK, May 2.—Growth of petroleum from the Drake well 80 years ago into a multi-billion-dollar industry and the important part it has played in the march of civilization are the themes stressed in the petroleum exhibit at the New York World's Fair. Executives of many oil companies joined with government officials and representatives of the governors of oil-producing states in dedicating the building and grounds made possible by Petroleum Industry Exhibition, Inc.

Petroleum was characterized as "the greatest single influence in the tremendous advances made by civilization in the last century" in a telegram read from John D. Rockefeller, Jr.

Axtell J. Byles, president of the American Petroleum Institute, said:

"It seems to me that petroleum has made great and definite contributions to this world's fair quite other than the building we dedicate today. Without machinery lubricated and powered by petroleum products it is doubtful whether this undertaking could have been completed in so brief a period; doubtful also whether enough visitors could get here to make the project worthwhile. Certain it is that the motor companies' building would not be here, or the airplane exhibits; nor would exhibits of the rubber, chemical, and many other industries be anything like their present size or importance.

"The proper function of the American system of government," he said, "is to establish fair rules for the industrial game and to act as referee, not as captain of the industrial teams. For government to play in the game, as well as to referee, is to invite danger. And as for danger, it seems to me that this nation need have less fear of invasion by land, by sea, or by air than of invasion by obviously unsound ideas."

Grace Grinnell Drake, granddaughter of Col. Edwin L. Drake, raised the flag to the top of the derrick.

The master of ceremonies was Thomas H. Taylor, president of the Petroleum Industry Exhibition, Inc. Mayor LaGuardia of New York delivered an address of welcome. The derrick floor was used as a platform.

Market research statisticians estimate that 3,200,000 automobiles from all parts of the country will be driven to the New York fair and that motor fuel consumption by private cars driven to New York this summer will be approximately 5,000,000 bbls. higher than normal. Crude oil at the rate of about 33,000 bbls. per day for an entire year would be required to meet the added motor fuel demand. The calculations do not take into consideration the greater consumption by bus lines, railroads and airlines.

The Petroleum Building represents the newest technique in lighting, acoustics, and architecture. It is 80 feet high and 200 feet along each of its triangular sides. Three tones of blue cover the corrugated tiers and the four exhibit tanks. (Photograph on Page 22.)

Upon entering the Great Hall of the Industry, the impression is given of standing under a huge metal canopy. Here the drama of petroleum is portrayed by maps, animated exhibits, working models, murals 49 feet square, each treating a main branch of the industry. The 50-foot map depicting the progress of the industry is in a shallow pit. There is a cement balustrade from which spectators may view the derrick-studded panorama. Tiny engines pull lines of tankcars Miniature tankers sail into petroleum ports.

Approximately 1,100 feet of blue flourescent tubing illuminate the building which is composed of four flaring tiers suggestive of a cooling tower.

A few feet from the petroleum map is another shallow pit in which the model refinery is located. While a voice explains, the visitor will see the complete process of refining. What petroleum means to industry, to transportation, to life at home or on the farm is graphically shown in exhibits inside the four tanks on which the building partially rests.

In one corner a technicolor picture will be shown, accompanied by specially composed music, with a cast of animated puppets. In the Transportation tank an exhibit shows the sources of lubrication before discovery of petroleum, and engine models from 1869, with the parallel developments in petroleum which made advances in engineering possible.

In the Pocket Book tank, wall insets explain conservation, and demonstrate how the prices of gasoline, less the tax, have fallen. Wages and hours is the theme of another display. A water wheel, symbolic of the pre-petroleum era, occupies a central position in the Industry tank. Two stuffed steers are hitched to a wagon loaded with oil barrels in the Transportation tank, with a background of streamlined trains, airplanes, automobiles and ocean liners The roof of the building will house P.I.E. in the Sky, where members and their guests may dine and relax.

Outside, in addition to the Diesel-electric drilling well, there is a pumping jack in operation, and a christmas tree is connected by flow lines into a separator and into a lease storage tank. A complete rotary drilling crew has been brought from the oil country to man the rig and explain its operation.

Stream Pollution Bill Is Passed by Senate

WASHINGTON, D. C.—The Senate has passed and sent to the House the Barkley stream pollution bill after defeating the Clark amendment to prevent pollution through injunctions.

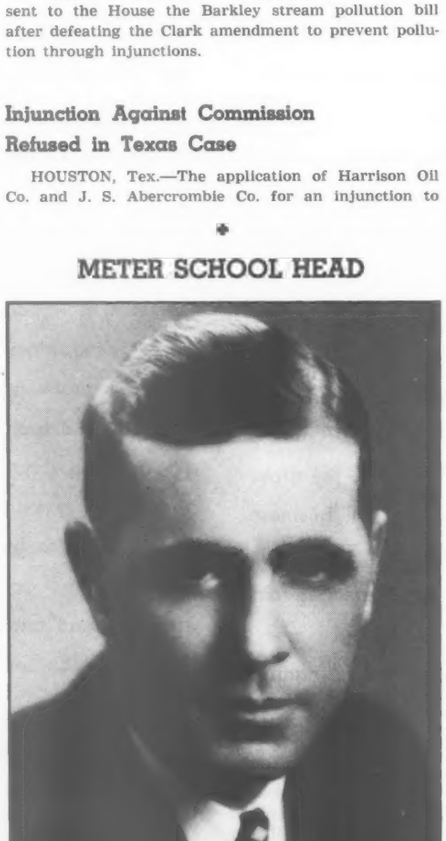
Injunction Against Commission Refused in Texas Case

HOUSTON, Tex.—The application of Harrison Oil Co. and J. S. Abercrombie Co. for an injunction to restrain the March 30 and April 1 proration orders issued by the Texas Railroad Commission affecting the Old Ocean, Manvel, Placedo, Pierce Junction and Markham fields, was dismissed by a three-judge federal court at Houston Friday.

James P. Hart, representing the commission, asked for dismissal because the orders were rescinded by an order April 3 retroactive to April 1.

Joe Moore, attorney for the companies, said his clients feared interference with the recycling program at the Old Ocean field. Mr. Hart replied that the commission wished to assist, rather than to interfere, in the gas recycling program.

METER SCHOOL HEAD



FAY C. WALTERS

Superintendent of Measurements, Panhandle Eastern Pipe Line Co., Kansas City, Mo., who was chosen general chairman of the Southwestern Gas Measurement Short Course at the recent meeting at Norman, Okla.

New Socony-Vacuum Tanker Launched in Maryland

Socony-Vacuum's new tanker, S.S. Mobilube, was launched April 29 at Sparrows Point, Md. Sister ship to the S.S. Mobilfuel, it was built by Bethlehem Steel Co. and was christened by Mrs. Charles E. Arnott.

Illinois Geologists Plan Meeting and Field Trip

The annual meeting of the Illinois State Academy of Science will be held in Springfield, Friday and Saturday, May 5 and 6. Illinois geologists will be interested in the Friday afternoon program on geology, commencing at 1:30 p.m., in Springfield High School. Papers will be contributed by members of the State Geological Survey and the departments of geology at Northwestern and the University of Illinois. Saturday, starting at 9 a.m., a field trip will be conducted by M. M. Leighton, G. E. Ekblau, and J. M. Weller.

N.L.R.B. Hearing on Mid-Continent Strike

National Labor Relations Board has filed charges against Mid-Continent Petroleum Corp. for hearing in Tulsa, May 15. The complaint mentioned the membership of the striking Oil Workers International Union as totaling 625. Trial of strikers indicted on misdemeanor charges is scheduled May 8 in Tulsa Common Pleas Court. Trial of Jack Hays, secretary of the Tulsa local, and others, arraigned on conspiracy charges, has been set for May 15 in District Court.

Barnsdall Co. Will Explore Louisiana Island

Barnsdall Oil Co. has acquired from Nelson Development Co. right to explore Point au Fer Island, Louisiana, more than 38,000 acres, for six months.

THE MARKETS*

CRUDE OIL: *Lisbon, Louisiana, crude price reduced 10 cents per barrel by independent buyer. This crude not desirable for refinery processing. Government reports show crude was run to storage in several states during April.*

REFINERY: *Maritime strike factor in markets in Gulf Coast and Atlantic seaboard areas, where heavy fuels are particularly strong. Coal strike aids demand for these fuels. Gasoline generally firm. Natural gasoline buying slow.*

TANK-WAGON AND POSTED DEALER: *Gasoline prices advanced at several points in the Southwest where quotations have been below normal.*

FINANCIAL: *Oil stocks inactive and move within narrow range. Average of 30 representative stocks for week ending April 29: High, 25.24; low, 24.21; close, 24.50. Week ending April 22: High, 25.17; low, 23.46; close, 24.89.*

ANNUAL REPORTS†

	Year	Net income	Earned per common share
Gulf Oil Corp.	1938	$13,017,076	$1.43
	1937	31,854,065	3.51
Socony-Vacuum Oil Co.	1938	40,106,917	1.29
	1937	56,808,264	1.82

*Additional information in market section. †Prepared by Carl H. Pforzheimer & Co., New York.

Natural Gas Leaders of Nation Heading for Tulsa Meeting

Leaders of the natural gas industry from all parts in the United States are preparing to attend the annual meeting of the Natural Gas Section, American Gas Association, in Tulsa May 8 to 11. The program follows:

GENERAL SESSION

Tuesday, May 9

Akdar Temple, 9:30 a.m.

Presiding, Thomas R. Weymouth, chairman, Natural Gas Section, American Gas Association; vice-president, Columbia Gas & Electric Corp, New York.

Welcome to Tulsa, Dr. T. A. Penney, mayor of Tulsa.

Address, Leon C. Phillips, governor of Oklahoma.

Activities of the Natural Gas Industry, Thomas R. Weymouth, chairman, Natural Gas Section.

Business Relationship With Government, Baird H. Markham, director, American Petroleum Industries Committee.

A Mobilized Gas Industry, Conrad N. Lauer, president, American Gas Association, and president, Philadelphia Gas Works Co., Philadelphia, Pa.

Luncheon—Crystal Ballroom, Mayo Hotel, 12:15 p.m.

Natural Gas and the Banker, Frank R. Denton, president, Mellon Securities Corp., Pittsburgh, Pa.

Wednesday, May 10

Akdar Temple, 9:30 a.m.

Presiding, Elmer F. Schmidt, vice chairman, Natural Gas Section, American Gas Association, and vice president, Lone Star Gas Co., Dallas, Tex.

It's Only the Beginning, Edward R. Guyer, president, Association of Gas Appliance and Equipment Manufacturers; vice president, Cribben & Sexton, Chicago, Ill.

What We Have in Headquarters, Alexander Forward, managing director, American Gas Association.

Advertising Is Good Business, P. C. Lauinger, president, The Oil and Gas Journal, Tulsa.

Men and Machines, Louis Ruthenburg, president, Servel, Inc., Evansville, Ind.

Fair Value and Fair Return, P. McDonald Biddison, consulting engineer, Dallas, Tex.; Ed. C. Connor, consulting engineer, Dallas, Tex.

Recent Court Decisions and Commission Rulings and Their Effect on the Natural Gas Industry, William A. Dougherty, counsel, Standard Oil Co. (New Jersey).

Chairman's Luncheon—Crystal Ballroom, Mayo Hotel, 12:30 p.m.

Thursday, May 11

Akdar Temple, 10 a.m.

Presiding, Thomas R. Weymouth.

The Place of the Safety Department in the Organization Set-Up, J. C. Flanagan, assistant to president, United Gas Pipe Line Co., Houston, Tex.

Fifty Years of Regulation of Business, George E. Frazer, counsel, Association of Gas Appliance and Equipment Manufacturers, Chicago, Ill.

Cooperative Research to Date, Dr. John W. Finch, director, U. S. Bureau of Mines.

MANAGEMENT SYMPOSIUM

Tuesday, May 9

Ivory Room, Mayo Hotel, 2:30 p.m.

Presiding, Thomas R. Weymouth.

The Duties of a Local Manager, (prize-winning paper—essay contest), Clyde E. Halloren, Gas Service Co., Eldorado, Kans.

The Duties of a District Manager, (prize-winning paper—essay contest), L. D. Black, Jr., Community Natural Gas Co., Ennis, Tex.

Telling the Story of the Company to the Public, Will C. Grant, director of public relations, Lone Star Gas Co., Dallas, Tex.

Home Service—the Tool of Management, Miss Jessie McQueen, home service counsellor, American Gas Association.

Engineering Assistance to Management, A. W. Ambrose, Cities Service Gas Co., Bartlesville, Okla.

Sales Direction in Company Management, C. I. Weaver, president, Ohio Fuel Gas Co., Columbus, Ohio.

Management—Its Responsibility, Paul Taylor, vice president, Stone & Webster Service Corp., New York.

MAIN TECHNICAL AND RESEARCH COMMITTEE

Wednesday, May 10

English Room, Mayo Hotel, 2:30 p.m.

Presiding, H. C. Cooper, chairman, Main Technical and Research Committee, Pittsburgh, Pa.

Report of chairman.

Report of Gas Measurement Subcommittee, Thomas R. Weymouth, vice president, Columbia Gas & Electric Corp., New York.

Report of Pipe Line Subcommittee, Harry D. Hancock, president, Gas Advisers, Inc., New York.

Report of Subcommittee on Gas Well Deliveries, N. C. McGowen, president, United Gas Pipe Line Co., Shreveport, La.

Field Practices Dealing With Gas Hydrates in Natural Gas Pipe Lines, W. M. Deaton and E. M. Frost, Jr., U. S. Bureau of Mines, Amarillo, Tex.

DOMESTIC GAS SALES CONFERENCE

Monday, May 8

Crystal Ballroom, Mayo Hotel, 10 a.m.

Presiding, F. X. Mettenet, chairman, commercial section, American Gas Association; vice president, Peoples Gas Light & Coke Co., Chicago.

A Show Will Let Them Know, Harry Swenson, Peoples Gas Light & Coke Co., Chicago.

Financing the Dealer, Percy Hall, vice president, Manufacturers Trust Co., New York.

The Gas Triangle, F. M. Houston, chairman, domestic range committee, American Gas Association, Rochester Gas & Electric Corp., Rochester, N. Y.

Wednesday, May 10

Presiding, Davis M. DeBard, vice chairman, Commercial Section, American Gas Association; vice president, Stone & Webster Service Corp., New York.

Advertising Programs and Dealer Tie-Ins, W. G. Wiegel, advertising manager, Lone Star Gas Co., Dallas, Tex.

Sales Programs Produce Results, John H. Warden, sales manager, Oklahoma Natural Gas Co., Tulsa.

Market Analysis and Developing Supervisors, F. X. Mettenet, vice president, Peoples Gas Light & Coke Co.

Home Service, Management Asks, Mildred R. Clark, Oklahoma Natural Gas Co., Tulsa.

Home Service Answers, Gladys Price, chairman, Home Service Committee, American Gas Association, Southern California Gas Co., Los Angeles.

The Triad—A Need, A Plan, A Program, Louise Petersen, Gas Service Co., Hutchinson, Kans.

The Voice of Advertising, Albertine Berry, Lone Star Gas Co., Dallas, Tex.

Home Service in a Trade Dealer Plan, Harry C. Canup, sales manager, Hales Mullaly Co., Oklahoma City.

A One-Girl Job, Margaret Thompson, Arkansas Louisiana Gas Co., Little Rock, Ark.

Sell the Seal That Seals the Sale, R. S. Agee, sales promotion manager, Association of Gas Appliance and Equipment Manufacturers, New York.

INDUSTRIAL GAS SALES CONFERENCE

Monday, May 8

Ivory Room, Mezzanine Floor, Mayo Hotel, 9:30 a.m.

Presiding, Frank H. Trembly, Jr., chairman, Industrial Gas Section, American Gas Association; assistant sales manager, Philadelphia Gas Works Co., Philadelphia, Pa.

Possibilities and Effect of Oil Industry Loads on Gas Companies' Earnings, George W. Rowland, Cities Service Gas Co., Bartlesville, Okla. Discussion—M. A. Reagan, United Gas Pipe Line Co., Wichita Falls, Tex.; Frank S. Kelly, Arkansas Louisiana Gas Co., Shreveport, La.

Reaching the Summer Air Conditioning Market Through the 1938-39 Developments in Gas Equipment, Charles R. Bellamy, chairman, Industrial and Commercial Air Conditioning Committee, Industrial Gas Section, American Gas Association; Columbia Gas & Electric Corp., New York. Discussion—Carl H. Dean, Oklahoma Natural Gas Co., Tulsa.

Economics and Sales Possibilities of Gas Engine Loads, D. W. Reeves, chairman, Gas Engine Power Committee, Industrial Gas Section, American Gas Association, Oklahoma Natural Gas Co., Tulsa. Discussion—Manley H. Clark, Southern Gas Co., Los Angeles, Calif.

Luncheon 12:15 p.m.—Presiding, J. H. Warden, general sales manager, Oklahoma Natural Gas Co., Tulsa.

Management Views the Growing Industrial Gas Load, Walter C. Beckjord, vice president, Columbia Gas & Electric Corp., New York.

Mezzanine Floor, Ivory Room, Mayo Hotel, 2 p.m.

Presiding, Franklin T. Rainey, vice chairman, Industrial Gas Section, American Gas Association; general sales manager, Ohio Fuel Gas Co., Columbus, Ohio.

Approaching Gas Sales From a Salesman's Standpoint Rather Than an Engineer's, Charles F. Henness, manager, industrial gas sales, Public Service Co. of Northern Illinois, Chicago. Discussion—F. Marion Cheif, Public Service Co. of Colorado, Denver, Colo.; Edwin Snook, Amarillo Gas Co., Amarillo, Tex.

Importance of the Industrial Gas Section's Function to the Industry, Frank H. Trembly, Jr., assistant sales manager, Philadelphia Gas Works Co., Philadelphia, Pa.

NATURAL GAS PRODUCTION CONFERENCE

Monday, May 8

Room W, 16th floor, Mayo Hotel, 9:30 a. m.

Presiding, J. H. Dunn, chairman, Production Committee, American Gas Association; general manager, Shamrock Oil & Gas Co., Amarillo, Tex.

New Uses of Cement in Completing and Reconditioning Gas Wells, C. P. Parsons, vice president, Halliburton Oil Well Cementing Co., Duncan, Okla.

Cooperation on Problems of Mutual Interest to the Natural Gas Industry and Natural Gasoline Manufacturers, J. W. Cowles, manager gas department, Shell Oil Co., Inc., Tulsa.

The Feasibility of Recycling Gas From High Pressure Gas Reserves, William H. Vaughn, Vaughn Gas Process, Inc., Tulsa.

An Equilibrium Cell That Provides a Precision Means of Evaluating the Dew Point of Mixture of Hydrocarbon Fluids as Produced From Wells, C. K. Eilerts, U. S. Bureau of Mines, Bartlesville, Okla.

Application of Well Temperature, Pressure and Productivity Data to the Study of Specific Gas Production Problems, M. A. Shellhardt, U. S. Bureau of Mines, Bartlesville, Okla.

NATURAL GAS TRANSMISSION CONFERENCE

Monday, May 8

Banquet Hall, 16th floor, Mayo Hotel, 9:30 a.m.

Presiding, George M. Parker, chairman, Transmission Committee, American Gas Association; Mississippi River Fuel Corp., St. Louis, Mo.

(Continued on Next Page)

The Use of Carbo-Seal Anti Leak, D. B. Williams, Carbide & Carbon Chemicals Corp., New York.

Latest Development in Pipe Coating Methods, K. N. Fancher, assistant chief engineer, Northern Natural Gas Co., Omaha, Neb.

The Foreman's Place in His Community, Aubrey Boyd, Lone Star Gas Co., Cayuga, Tex.

Preventing and Removing Gas Hydrate Formation in Natural Gas Pipe Lines, E. G. Hammerschmidt, Texoma Natural Gas Co., Fritch, Tex.

Transmission System Leak Inspection, James A. Martin, Lone Star Gas Co., Dallas, Tex.

Luncheon—12:30 p.m.

Some of the Unusual Problems Encountered in Pipe Line Operation, R. H. Burdick, chief engineer, Southern Natural Gas Co., Birmingham, Ala.

Monday, 2:30 p.m.—

Presiding, George Young, vice chairman, Transmission Committee, American Gas Association; Michigan Gas Transmission Co., Detroit, Mich.

Dehydration and Resultant Effects on Pipe Line Carrying Capacity and Operation, John Clark, Hope Natural Gas Co., Clarksburg, W. Va. Discussion—W. M. Deaton, U. S. Bureau of Mines, Amarillo, Tex.

Possible Effect of Lightning on Underground Pipe Lines, R. G. Strong, Natural Gas Pipe Line Co. of America, Chicago.

Small Intermediate Compressor Stations as a Means to Increase Main Line Capacity, H. C. Wallace, chief engineer, Commonwealth Gas System, Inc., New York.

ACCOUNTING SECTION CONFERENCE

Monday, May 8

Room B, 16th floor, Mayo Hotel, 10 a.m.

Presiding, F. W. Peters, chairman, subcommittee, Natural Gas Accounting, American Gas Association; treasurer, Oklahoma Natural Gas Co., Tulsa.

Accounting Section Activities and Organization, H. A. Ehrmann, chairman, American Gas Association, accounting section, Consolidated Edison Co., of New York.

Customer Deposits, Oakah L. Jones, Oklahoma Natural Gas Co., Tulsa.

Property Reserves, F. B. Flahive, Columbia Gas & Electric Corp., New York.

The Effect of the New Classification of Accounts on Natural Gas Production Accounting, L. L. Dyer, Lone Star Gas Co., Dallas, Tex.

Luncheon—12:30 p.m.

Accounting Committee Roundtable, questions and answers.

EMPLOYE EDUCATION CONFERENCE

Monday, May 8

Room V, 16th floor, Mayo Hotel, 10 a.m.

Presiding, C. L. Hightower, director of safety, United Gas Co., Houston, Tex.

What Gas Companies Are Doing About Employe Education, E. H. Poe, secretary, Natural Gas Section, American Gas Association.

The Need for Job Training and Methods Best Adapted to a Well-Rounded Program, Paul J. Hubbell, personnel director, Phillips Petroleum Co., Bartlesville, Okla.

Vocational Education—Facilities Available, L. K. Covelle, state supervisor, trade and industrial education; director vocational education, Oklahoma A. & M. College, Stillwater, Okla.

ACCIDENT PREVENTION CONFERENCE

Monday, May 8

Room V, 16th floor, Mayo Hotel, 2 p.m.

Presiding, C. L. Hightower, Houston, Tex.

The Value of Meetings in the Accident Prevention Program: General employe meeting, Charles Miller, Texas Co., Houston, Tex.; group conference, Harry Markee, Bartlesville, Okla.; supervisors meeting.

The Importance of Investigation of Employe Personal Injury Accidents: Who Should Investigate the Accident, R. L. Conway, Jr., United Gas Pipe Line Co., Houston Tex.; Methods of Investigation, Hadley Myers, Sinclair companies, Tulsa; Investigation of Near Accidents and Minor Accidents, Robert Huffman, Oklahoma Natural Gas Co., Tulsa.

The Public Liability Problem in Connection With Domestic and Industrial Sales and in the Operation and Maintenance of Mains, L. B. Denning, Jr., vice president, Community Natural Gas Co., Dallas, Tex.

SHREVEPORT FIELD

(Continued from Page 27)

able greater than its ability to produce as indicated by the latest test on file with the department."

With regard to gas-oil ratio limits, the order states:

"The gas-oil ratio of each oil well shall be kept as low as possible, but in no event shall an oil well be permitted to produce gas in excess of 2,000 cu. ft. per barrel of oil produced, provided, however, that if any well which, by reason of its location or manner of completion, produces oil with a gas-oil ratio in excess of that authorized, same shall be allowed to produce daily a total volume of gas equivalent to the volume obtained by multiplying the daily oil allowable of said well . . . by 2,000 cu. ft. . . ."

The order provides for the making of monthly pressure and gas-oil ratio tests, and in addition requires the metering of all gas produced in the field.

The new control measures have been generally well received by operators in the field, although the 2,000-cu. ft. gas-oil ratio limit was lower than had been expected. However, according to the March proration schedule, eight of the 14 wells tested showed ratios in excess of the limit, and it is expected that some of them can be brought within the figure with improved production methods and workovers.

Twenty wells are now producing in the field, and with 16 rigs in the area at present, the pool will see rapid development.

WELL DATA, SHREVEPORT FIELD

Oil Wells

Owner and lease—	No.	Elev. (ft.)	T.D. (ft.)	Massive-anhydrite (Subsea) Top	Massive-anhydrite (Subsea) Bottom	T. Pettit lime (subsea)	Initial prod. (b.p.d.)	Gas-oil ratio (cu.ft./ bbl.)	March allowable (b.p.d.)
Allison Drlg. Co., Ellerbe	1	172	5,615	—4,332	—4,591	—5,373	499	1,660	363
Allison Drlg. Co., Ellerbe	2	171	5,569	—4,335	—4,596	—5,375	1,560	1,660	388
Allison Drlg. Co., Ellerbe	4	174	5,570	—4,336	—4,685	—5,366	192	8,870	79
Allison Drlg. Co,. Ellerbe	5	172	5,575	—4,335	—4,598	—5,364	192	30,000	22
Allison Drlg. Co., Jones-Mabry	1	174	5,612	—4,343	—4,599	—5,381	(*)	.....	...
R. L. Bauman, Slattery	1	172	5,596	—4,331	—4,593	—5,364	240	2,045	313
W. C. Feazel, Hughes	1	187	5,590	—4,378	—4,609	—5,368	768	1,950	384
Ford Oil Co., Dorian	1	209	5,599	—4,367	—4,622	—5,362	135	8,100	77
Harry Fotiades, Tomlinson	1	245	5,594½	....	....	—5,371	792	.....	...
Harry Hanbury, Lowe	1	174	5,556½	—4,336	—4,609	—5,376	480	1,300	250
Harry Hanbury, Sample	1	180	5,568	—4,348	—4,772	—5,374	610	1,040	400
Hurricane Pet. Corp., Chandler	1-A	173	5,590	—4,396	—4,580	—5,365	408	3,487	192
Hurricane Pet. Corp., Chandler	1-B	239	5,676	—4,393	—4,642	—5,365	240	1,344	384
Hurricane Pet. Corp., Chandler	1-C	245	5,619	—4,320	—4,570	—5,368	480	2,219	361
Hurricane Pet. Corp., North	1	164	5,591	—4,342	—4,605	—5,364	191	4,556	75
W. M. Leisk, Sinclair	1	180	5,565	—4,334	—4,667	—5,371	(†)	.....	...
Lisbon-Iberia Oil Co., Kahn-North	1	177	5,562	—4,348	....	—5,366	792	3,690	210
C. D. Loe, Meyer	1	214	5,631	—4,394	—4,632	—5,373	(*)	.....	...
Gas Well									(M.c.f.)
Allison Drlg. Co., State	1	175	5,618	—4,330	—4,590	—5,357	103	.....	815

*Dry and abandoned. †Reworking.

Frank Phillips on Oil Industry In Tomorrow's Business

WASHINGTON, D. C., May 3.—Frank Phillips, chairman of Phillips Petroleum Co., speaking before the Chamber of Commerce of the United States, today, said in part:

There has been much discussion concerning the possibility of government control of the oil industry. Some view this as a dangerous probability without realizing, perhaps, that the industry is already being rigidly controlled through the limitations imposed by our laws governing the conduct of business. The oil industry does not need or want federal operation, but changes should be made in our restrictive laws and we should have the cooperation of our Government in bringing about the necessary regulation. The need of conservation is so great and the solution of the problem so obvious that corrective measures should not be postponed much longer.

Much has been accomplished in promoting conservation by our oil states compact of six oil producing states, but the compact is without authority either to issue or enforce necessary regulations and it does not include all producing states; consequently, a more authoritative control of production is needed. In my opinion it can only be accomplished by the enactment of federal laws.

The industry must be so regulated that its efforts cannot be destroyed by the action of a few oil producing states or a few operators who disregard the interests of others while attempting to satisfy their own selfish aims.

Contrary to the purpose for which the antitrust laws were originally designed, they are actually promoting practices that are detrimental not only to industry, but to the general welfare of the entire nation. Overproduction of gasoline flowing from overproduced crude oil, with unregulated, destructive, cutthroat competition, which in 1933 brought the price to 25 cents a barrel and gasoline to 2 cents a gallon at the refinery, may easily be the stumbling block that will keep our industry from taking a dominating lead in tomorrow's business recovery. These things can be controlled, and were controlled, by the application of the principles and policies developed under the N.R.A., but the Madison indictment brought us face to face with an insurmountable handicap.

With present legal barriers it is impossible for the oil industry, through constructive cooperation, to curb or control the damaging influence of unbusinesslike, competitive practices. Certainly the conduct of all business, large and small, in interstate commerce, should be regulated by Government, but our laws should be so amended that such regulation will be imposed with equal consideration for all groups: workers, investors, and consumers. There should be established, without delay, a governmental agency with power to sanction and enforce agreements made within industrial groups. This would permit the necessary constructive regulation of trade practices and operating policies, correct existing abuses, and insure industrial stability and fair treatment for all concerned.

Our confiscatory tax laws and our one-sided labor laws should be so amended that the investment of capital will be encouraged.

Such changes in our laws and the needed regulations will, in my opinion, remove the shackles that are retarding our future progress.

Oil can be placed in the front rank as an employer of men and money. It can be a leader in creating new wealth. But, before our many problems can be solved, there must be a better understanding between leaders in government and leaders in business concerning the problems of both.

It is hoped that this may be accomplished during the inquiry to be conducted by the Temporary National Economic Committee. This inquiry, will undoubtedly disclose the facts concerning every phase of the oil industry, about which there has been circulated a great deal of misinformation. A sincere and candid inquiry should cure these many illusions and create a sense of appreciation for this great and essential industry. I am sure that when our law-makers have a better understanding of our many problems, the necessary remedies, which are so obvious, will be forthcoming. The barriers to our future progress are not insurmountable. I believe that present problems can, and will, be solved in a manner that will be fair to all concerned.

Automatic Injector
Ejector, Syphon or Jet Pump
"Navy Type" Liquid Level Gage
"Safeguard" Automatic Liquid Level Gage
"All-Iron" Automatic Liquid Level Gage
Gas Engine Lubricator
Snap Lever Oiler
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EMPTY SPACE SHOWS WHITE LIQUID SHOWS BLACK
PENBERTHY Reflex GAGES
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FRAME
Screw Plunger Grease Cup
Spring Compression Grease Cup
Automatic Electric Sump Pump
Automatic Cellar Drainer (Water or Steam Operated)
Dipless Air Cock

DOMINANT FACTORS

(Continued from Page 23)

Mid-Continent field closed the year with nothing more than working stocks on hand. This is significant inasmuch as it reflects a healthy and strong situation which few industries in this country can match. It is my opinion that all this year's production of natural gasoline in the Mid-Continent field will be disposed of by the close of 1939. The credit for this excellent position is due to the field men, the technical advisers and plant operators as much as the sales division, because they are the ones responsible for turning out a satisfactory product without which there would be no demand.

The past year has witnessed one phase of our business which to my mind has progressed more rapidly and which eventually will mean much to the manufacturers, and that is the improved market for butane and propane. This product, largely lost or wasted in the past, is now in growing demand and is being utilized for heating purposes, drilling wells, as motor fuel for trucks and for many other useful purposes. A still greater demand is in prospect for these products which will mean added revenue for the manufacturers as well as for the producer of the gas.

Another hydrocarbon which could be extracted through additional equipment at our plants, if there were sufficient demand for it, is isopentane. Isopentane is a superior blending stock for aviation fuel for it has an unleaded octane number of 90 and can be manufactured in quantity for about half the cost of present 100 octane aviation fuels. Its chief disadvantage is its 20-pound vapor pressure which makes it possible to handle in planes of present design, but certainly this handicap could be overcome. I believe that this association might well investigate this problem and, while such research would be expensive, the returns should be in proportion as the market for this product was developed.

Another Characteristic

For years we have been dramatizing and exploiting the value of volatility and unquestionably our work has been a definite factor in converting the refiner to our point of view and in changing automotive design for proper use of more volatile fuels. Now, while our volatility arguments still hold good, another characteristic of natural gasoline is assuming increasing importance. This is its lead susceptibility and blending octane value.

Though the octane number of all present motor fuels is higher than ever before, the antiknock superiority of most natural gasoline still has a margin over most refinery gasolines. However, this margin becomes increasingly less as refining processes improve and the octane number of motor fuels continues to climb. Here then is a problem to which the natural gasoline manufacturer should be giving some very serious consideration right now.

Please note that I said *most* natural gasolines still retain a margin of antiknock quality above present refinery gasolines. It is an unfortunate fact that some natural gasoline manufacturers have not wakened to the necessity of improving the quality of their product and there is a considerable quantity of this inferior grade material being forced on the market. This natural can be improved at small cost and this should be done, for the time is not far distant when it will go begging on the market or be sold at a discount. The upward trend of motor fuel quality will force this and the refiner is becoming more exacting in his requirements of us all the time. All manufacturers should keep up with the procession if they want their product to maintain its demand.

With the volatility trend definitely in our favor and with the avowed intention of protecting ourselves in the octane trend, what other things may we as natural gasoline manufacturers do to assure ourselves a sound economic position in the changing markets of the future? I have already mentioned the possibilities of a new and profitable market if isopentane was widely used in aviation fuels. At the present time the valuable characteristics of this abundant hydrocarbon are but partially utilized as one of the components of natural gasoline and while its removal would lower the quality of the finished product the addition of some of our excess butane would remedy this to a certain extent. Therefore, if we are able to market isopentane as an aviation fuel we not only profit through the sale of an additional product but find a new place for another product of which we have an excess.

Looking Ahead

The new refining processes, of which we will hear a great deal tomorrow, are forcing us to look at our hole cards and in some ways to revaluate our operations. I believe that the time has arrived when we can no longer look on ourselves as a one product industry and we should begin to see our product, as well as the natural gas from which it is extended, as chemical raw materials. It is difficult for us to visualize what this may mean to us in the future but I am certain that we must follow closely the broad changes that are taking place in the refining industry and the remarkable advances of the hydrocarbon chemist or we will be overlooking some really good bets in our own industry.

It is with distinct pleasure that I turn now to association activities of the past year and the work of our committees. While each of the committee chairmen will review this work in detail a little later on the program, I want to emphasize just a few points by calling them especially to your attention.

The work of the gas testing committee has been really outstanding and its record of achievement is an enviable one. Not only did this group complete revisions of the compression test code making it a more accurate tool of the industry, but they have carried this work further to a partial solution to one of the oldest problems in gas measurement. This problem is concerned with metering difficulties caused by pulsations of the gas stream induced by compressors or similar processing equipment. Meter reading may vary considerably because of these waves of gas and the results have annoyed gas testers and plant men alike. The public utilities and meter manufacturers have worked on this problem for years and it may be that through the work of our own committee some real solution will result.

Another accomplishment which has a ready and understandable value came as the result of investigation by this committee of a better means of handling charcoal to assure uniformity of this necessity in field testing. So well was this work done that it will be possible for oil companies everywhere to save considerable sums, not only in the purchase of this charcoal, but in testing operations as well. I am told that these sums range upward to as much as $300 to $400 per year, depending on the spread of operations. While these monetary gains are decidedly welcome, the fact that the newly adopted container will tend to eliminate many arguments in the field and create, rather than destroy, good will, is an asset of less tangible but just as great value.

The gas contract committee has finished its work of the past two years and turned out a new standard form of casinghead gas contract. The work has been long and arduous with arguments of varying heat throughout. While these men did the real committee work of arranging and word choosing, ideas submitted by many nonmember companies have gone into the finished form. In some cases these have been adopted almost in toto and we have appreciated this outside help and the personal suggestions from men interested in the work. The result is a new form which fits no particular individual circumstance or condition but is one which has been made as fair and equitable as it can be made, having in mind the position of both the buyer and seller of gas. We believe that it is also a modern contract though it may not be as specific in places as some would like to see it. There is one thing of which I am sure, and that is that you are bound to agree it was a monumental job when you hear it discussed in detail.

The technical committee and the traffic committee are launched on studies which are of vital interest to the whole industry. The former is studying present methods of making fractional analyses of gases with a view to standardization and is writing a new method for determining the Reid vapor pressure of gasoline having a vapor pressure in excess of 26 pounds. The latter is engaged in mitigating the age-old outage problem. It requires but little imagination on your part to realize the importance of these two projects, especially since our methods of operation may be radically changed within the next few years. We need a better and more accurate tool by which the component parts of any gas may be determined with equal facility and comparable results by any operator. Certainly we do not have that now. And while the outage question does not loom as large as it did in the days when most of our products were wild and unstabilized, the fact that part of it does exist, with its attendant costs and hazards, is no complement to the progress made to date. It is believed that a complete solution can be found.

Unusual Question

There are only the briefest reviews of the things accomplished during the past year and I'm sure the details will interest you as the respective chairmen make their reports.

Now I would like to pose a rather unusual question. Why do we do these things? Let there be no mistake about it, we have no altruistic motives and we try to get results which will do us, who are in the association, the most good. And yet there is nothing in our record anywhere, and it is a record of accomplishment of which we may be justly proud, that has not resulted in practically the same benefits to every company in the natural gasoline industry.

The question naturally arises as to why any company should join the association and spend the money it would cost to support our research if it can get the results without paying for it. That is a perfectly good question, but the viewpoint is wrong. If every company adopted that attitude technical societies and associations would not exist and every company would do its own research at five times the cost or get left far behind in these competitive days. We believe we have conclusively demonstrated that the work of this association merits the support of the whole industry. We *want* and we believe we are justified in *asking* your financial support, but what we want most and what we could make the best use of, are the *brains* and *manpower* which so many nonmember companies have in abundance. There are so many things to be done that are worth doing but on which the work will be delayed or not done at all unless it is accomplished through the cooperative channels of organization. In our own industry this association performs that function. It is the forum for natural gasoline problems and as such it should be given every assistance by all interested in that industry. It is not so much that you protect your interests but that you further your interests and those of your industry by cooperating as far as possible in association work.

A general view of the program prepared for you by the very able convention program committee has in it much of interest and we hope

Corrosion in Wire Rope

The bearings just don't work. Hence flexibility is lost and the extra bending load from this stiffness quickly destroys the individual wires. A corroded rope is a dangerous rope to use. If the wires of a rusty rope are still in good condition, the rope may be salvaged. A thorough treatment with a penetrating lubricant will free the bearing surfaces and permit the wires to slide by each other when the rope is flexed. But no amount of oil can replace worn surfaces. The best thing is . . . don't let your rope get "Rhumatiz". Wire Rope is made with proper oil impregnation of the hemp centers and ample slushing of the wires inside and out to assure proper lubrication during storage, marketing and initial use. Protect it by greasing the surface during use and enjoy the longest possible service from Wire Rope.

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you will take in all the sessions. Those of you who have reached executive status have probably already made plans to take in those of Thursday and because the whole day of Friday is labeled "kinks" session, some of you think that one is not for you. Let me assure you that you are wrong about that for the discussions put on by the field men as they describe their numerous ideas for saving money or improving on field or manufacturing methods are among the most valuable features of the whole program. There are no broad policy discussions in that session but only a succession of hard facts which make a regular mine of information. It will pay you to be there yourself but if you cannot make it, see that your field men do.

The Natural Gasoline Supply Men's Association plays the generous host this year as it has for so many years in the past. They will buy our lunches and entertain us at a dance, courtesies which I'm sure we all appreciate. But let us not just thank them with a phrase or two. When the time comes during the year when you need equipment or services which these companies have to offer, consult the membership list of the Supply Men's Association (it's on the back of your program) and give them your patronage. You can not get better materials or service elsewhere and these companies really merit your consideration.

This is the second year of my service as president of this association, and knowing that precedent dictates but a two-year term, I know that I will be leaving the office shortly. However, before my term ends officially I want to express my appreciation to the board of directors, the committees, the secretary, William F. Lowe and his able assistant, Miss Roberta Hughes, for their sincere and helpful cooperation. I have enjoyed my tenure of office and have appreciated the honor of serving. And though it is a little previous, I offer my sincere congratulations to my successor on his position and as head of a live and going organization and pledge my support in the undertakings he may direct. Thank you.

Connally Law Extension Argued at Hearings

WASHINGTON, D. C., May 1.—Arguments for and against permanent enactment of the Connally hot oil law occupied three days of hearings before the House committee on interstate and foreign commerce. The act is due to expire June 30, but the Senate has passed a bill to make the law permanent.

The argument that the law aids in conservation and orderly marketing was advanced by spokesmen for the Interior Department and the bulk of the oil industry, while it was attacked as a measure to fix prices for the benefit of major producers by spokesmen for some independent jobbers and others. Chief witnesses in behalf of the law were Senator Connally, Representative Lyle H. Boren of Oklahoma, Russell B. Brown, counsel for the Independent Petroleum Association, and Fayette B. Dow, counsel for the Pennsylvania Grade Crude Oil Association. The law was also supported in a letter by Harold L. Ickes, Secretary of the Interior, and by three representatives of this department, George W. Holland and E. B. Swanson, of the Petroleum Conservation Division and A. G. White of the Petroleum Economics Division of the Bureau of Mines. Those attacking the law included Representative John M. Coffee of Washington, Paul E. Hadlick of National Oil Marketers Association, William J. Kemnitzer, economic geologist, and John D. Glass, formerly an employe of the Interior Department engaged in enforcing the Connally law in Tyler, Tex.

The opponents largely repeated arguments made against the Connally Act two years ago, contending that it operates more to regulate production for the benefit of major producers than as an aid to true conservation and that in conjunction with the interstate compact and with the forecast of the Bureau of Mines it operates to fix production and prices, forcing independent refiners to buy in a controlled market and sell in a free market. Mr. Kemnitzer contended that the law interferred with free competition and has greatly added to the profits of major producers and he argued that the Government should not interfere beyond protecting against physical waste in production. Mr. Glass declared that the Department of the Interior has been lobbying in state legislatures for the enactment of proration laws and criticized the fact that the Connally law has been applied only in the East Texas field. He declared its operation there benefited the major companies because at the beginning there were so many independent producers that the majors could not control production in that field but that through the operation of the Connally law production by independents has been reduced from 60 or 70 per cent to 30 or 40 per cent. He also declared that penalties under the act are too severe and that it operates against small producers, and if the law is continued in force he suggested that it be made to apply equally to all fields and all producers.

G. W. Holland, federal administrator of the Connally Act, in a letter to the committee, disputed today allegations made against the law and charged opponents wished it to expire so they could dispose of contraband petroleum held in Texas.

Obituaries

WILLIAM H. JACKSON, president of the Pittsburgh-Des Moines Co. of Pittsburgh, Pa., and Des Moines, Iowa, died at Pittsburgh on April 26 after a brief illness. He was born at Delaware, Ohio, March 19, 1868, and graduated in civil engineering at Iowa State College in 1891. He lived at Des Moines from 1893 to 1910 when he moved to Pittsburgh. He was a member of the American Society of Civil Engineers.

GEORGE H. TORREY, active in early oil scouting days, later as an operator in Pennsylvania fields, died April 28. For years he was president of the Drake Day Association. His business career began with his uncle's firm, Farrar & Trefts of Buffalo, N. Y., manufacturers of engines and boilers. Later he went to the Bradford and Allegany fields, then to Richburg and Bolivar. In 1889 and 1890 he organized the Producers Protective Association, later helping form the Producers Oil Co., forerunner of Pure Oil Co.

JAMES O. WHITTINGTON, 64, pioneer oil man of the Texas Panhandle, died in Amarillo, Tex., April 29, following a heart attack. He brought in the third well drilled in the Panhandle field and his oil operations included Oklahoma, Kansas, Louisiana and East Texas.

AMOS L. BEATY, 68, former president of the American Petroleum Institute, died in New York April 29. He had been ill for only a short time, following a heart attack. At the time of his death he was president of the Amos L. Beaty Oil Co., of New York. He began his oil career in Texas when he was appointed attorney for Texas Co., in Dallas in 1907. Six years later he moved to New York as general counsel, director,

AMOS L. BEATY

member of the executive committee and later as president. In 1926 he became chairman of the board from which he resigned a year later. He served as president of the American Petroleum Institute from 1931 to 1932. In 1934 he was appointed to head the petroleum code authority of the N.R.A.

RUPERT W. LOWE, 57, formerly production superintendent for Standard Oil Co. of Louisiana, died in Shreveport April 25.

J. DON COLE, SR., 44, district superintendent of the Flour Bluff district of Humble Oil & Refining Co., died last week. He had been with the company 20 years.

Too Much Gasoline on Hand Says President Seubert

CHICAGO.—President Edward G. Seubert of Standard Oil Co. of Indiana said "there is too much gasoline on hand. The price situation is very bad," he declared. "All the major companies show a sharp decline in income due to tough competition." One of the causes, he said, was increased production of crude oil in which the southern Illinois fields were a factor.

The directors elected Ralph E. Clarke, treasurer, and C. T. Bergeson, comptroller, to take over the duties formerly handled by Charles J. Barkdull. Mr. Barkdull will devote his entire time to the office of executive vice president.

Next Houston Show Postponed to Spring of 1942

By NEIL WILLIAMS

Group at foreign oil men's banquet at Oil-World Exposition, Houston, Tex.: R. G. Bennett, driller, Trinidad Leaseholds, Ltd., Trinidad, B.W.I.; A. J. Ruthven-Murray, general manager, Kern Trinidad Oilfields Co., Trinidad, B.W.I.; Joe H. Russell, assistant to vice president, Gulf Oil Corp., Houston; Hon. Edward Ashley (son of Lord Hastings), London, England, and Joe H. McEvoy, J. H. McEvoy Co., Houston

HOUSTON, Tex., May 1.—Recommendations that the Oil-World Exposition, Inc., hold its shows in Houston only once in four years, instead of biennially, were indorsed by members following a general meeting of the organization Friday prior to the closing Saturday of this year's show. As a step in carrying out the recommendations, it was voted to postpone the next show, which ordinarily would be held in the spring of 1941, until the spring of 1942, two years following the International Petroleum Exposition in Tulsa in 1940. In the meantime, the Tulsa organization will be urged to adopt a similar schedule, rotating with Houston to the end that there may be only one oil show every two years.

Action of the Oil-World Exposition, Inc., followed reading of telegrams from executives of various large oil companies, expressing disapproval of the present frequency of oil shows. The messages were in reply to a telegram from John R. Suman, president of the Oil-World Exposition, Inc., asking opinions on proposals to limit the Houston and Tulsa shows to two in four years.

Officers and members of the executive committee of the Oil-World Exposition the past two years were reelected, this time for a three-year term. They are: President, John R. Suman, vice president of Humble Oil & Refining Co.; executive vice president, Chase E. Sutton, division manager, Pure Oil Co.; vice presidents, J. S. Abercrombie, president J. S. Abercrombie Oil Co.; George A. Hill Jr., president Houston Oil Co.; W. L. Childs, vice president Reed Roller Bit Co., and Wallace Wilson, president Wilson Supply Co.; secretary-treasurer, Ray L. Dudley, president Gulf Publishing Co.; members of the executive committee, in addition to the officers, S. P. Brown, vice president Hughes Tool Co.; Frank S. Carothers, Houston branch manager Norvell-Wilder Supply Co.; Joe H. Russell, assistant to the vice president, Gulf Oil Corp., and W. B. Sharp, president Mission Manufacturing Co.

Twenty-five additional members were elected to the board of directors. The new members are: C. A. Alcorn, Falcon Seaboard Drilling Co., Houston; George Barham, drilling contractor, Shreveport; George Corless, general superintendent, Gulf Coast division, Humble Oil & Refining Co.; Fred E. Cooper, Tulsa; W. K. Cox, Caterpillar Tractor Co.; Jack Crawford, Republic Supply Co., Los Angeles; Earl Cunningham, Oil Well Drilling Co., Houston; J. A. Elkins, Vinson, Elkins, Weams & Francis, Houston; George J. Fix, Dallas; Karl Hasselman, president, Salt Dome Oil Corp., Houston; Cecil N. Housh, drilling contractor, Houston; J. E. Holmes, Republic Steel Co., Pittsburgh, Pa.; Percy C. Jones, S. M. Jones Sucker Rod Co., Toledo, Ohio; G. L. Kothny, vice president and general manager, Sperry-Sun Well Surveying Co., Houston; P. C. Lauinger, president, Petroleum Publishing Co., Tulsa; J. Sales Leach, vice president, Texas Co., Houston; C. E. Morris, Petroleum Engineer, Dallas; Clint Murchison, president, American-Liberty Oil Co., Dallas; C. P. Parsons, vice president, Halliburton Oil Well Cementing Co., Duncan, Okla.; H. J. Porter, drilling contractor, Houston; R. B. Root, vice president and general manager, Bridgeport Machine Co., Wichita, Kans.; John G. Seiler, Tube-Turns, Inc., Louisville, Ky.; William Sievers, Security Engineering Co., Los Angeles; Grover Simpson, Loffland Brothers, Tulsa; George E. Zoffman, Duval Sulphur Co., Houston. Ed G. Lenzner, general manager, serves by appointment of the officers and executive committee.

At the general meeting, Mr. Suman was given a watch in appreciation by the members for his work and leadership. Formal presentation was made by George A. Hill, vice president.

The show closed formally at 10 o'clock Saturday night, April 29, with a community singing program led by George O'Leary, president of Houston Oil Field Material Co., Inc., and Mrs. O'Leary.

Attendance totaled 179,034 visitors, exclusive of exhibitors' representatives and special badges and passes. This was 51,749 greater than the official attendance of the show held two years ago.

Group meetings held Friday consisted of those sponsored by the process division committee of the general refinery program committee, and the safety program committee. On the refinery program a paper on "Catalytic Desulphurization," contributed by Phillips Petroleum Co., replaced a paper scheduled to have been read by Dr. E. M. Smoley, Lummus Co., New York, on "The Application of the Polyform Process."

A feature of the safety meetings was the presentation Friday night of medals and awards to 41 oil company employes, and one 13-year-old girl, responsible for saving life.

The medals to men were presented by J. H. Brown, general chairman of the petroleum section of the National Safety Council Those receiving awards were: J. B. Pierce, Montegut, La.; J. W. Choate, Henry F. Ferguson, E. H. Demler, Emmitt M. Bell and Robert F. Robertson, Port Arthur; John E. Bouligny, Port Neches; Tom Frazier and Claude Andrews, Conroe; Reese Hubert, Houston, and W. A. Reynolds, Nocona, all of Texas Co.; George P. Huber and W. F. Berryman, Port Arthur, Texas Can Co.; C. S. Amick, Shreveport, and Lewis Kim Slatter, Saratoga, Texas Pipe Line Co.; John W. Colten, Saratoga; J. R. Evans, Sour Lake, and L. L. Adams, Daisetta, Gulf Oil Corp.; L. D. Mosier, Nederland; Norman N. Valentine, John Boutte, G. F. Weisbach, T. E. C. Pickle and D. C. Anderson, all of Port Arthur, Gulf Oil Corp., pipe line division; Leonard Mizell, Friendswood; William A. Bolles, Dickinson; Henry Alston, Freer; W. D. Campbell, Beaumont, and J. G. Grant, Genoa, Humble Oil & Refining Co.; Odell McBride, Skidmore, Humble Pipe Line Co.; William Jackson, Beaumont, Sun Oil Co.; G. E. Miller, Palestine, Tide Water Associated Oil Co.; B. F. Babin, S. E. Lorio and R. W. Louivien, Texas City, Pan American Refining Co.; T. M. Haire, Fred Dupree and E. L. Sinclair, Monroe, La., United Gas Pipe Line Co.; Tom V. Venator, Iowa, La., Shell Oil Co.; D. M. Farrell, St. Louis, Mo., Shell Pipe Line Co., and A. E. Crouse, Basile, La., Continental Oil Co., and Mary Davis.

Capt. A. A. Nichoson, New York, personnel manager of Texas Co., addressed the gathering. C. A. Miller, assistant personnel manager, Texas Co., Houston, presided.

On Friday morning and afternoon programs were a series of talks on practical safety work subjects, together with demonstrations of safety and first aid. T. S. Maffitt, Jr., safety manager, Houston Oil Co., was chairman at the morning session, and R. B. Roaper, safety director, Humble Oil & Refining Co., at the afternoon meeting.

A paper on "Soil Analysis," by Robert S. Cooke of Houston, student at Rice Institute, was awarded first place in the student contest sponsored by the drilling and production committee Wednesday night. Other student papers rated among the eight best, and receiving prizes, were presented by Rudolph Bodemuller, University of Texas; U. W. Small, Texas A. & M. College; John D. Wisenbaker, Southern Methodist University; E. B. Carruthers, Texas A. & M. College; R. Murph Jones, Rice Institute; Alfred H. Paessler, University of Texas, and E. H. Parker, Oklahoma A. & M. College.

At the motor transportation group meeting Wednesday, J. N. Bauman, vice president of White Motor Co., Cleveland, Ohio, urged the oil industry to cooperate with the bus and truck manufacturers in attempting to create a better public understanding for highway transportation.

C. L. Hightower, safety director of United Gas Pipe Line Co., Houston, and Roy Fike, Mid-Continent Petroleum Corp., Tulsa, also spoke.

A total of 116 representatives of foreign countries or of oil companies operating in foreign countries were registered.

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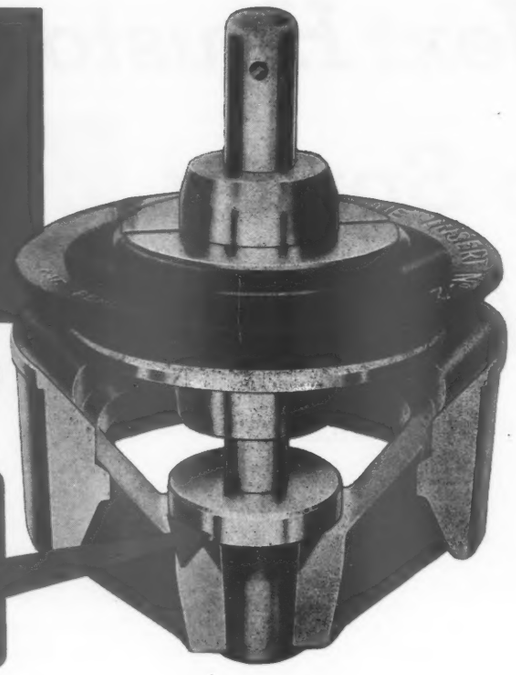

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Pennyslvania Oil Probe Ends With Attack on Industry

By J. P. O'DONNELL

HARRISBURG, Pa., May 1.—The release of the long-delayed report of the two-year-old Pennsylvania oil industry investigation commission was almost coincidental with the declaration of R. E. Woodside, Republican floor leader in the house, that the report was the "dying gasp" of the commission, created by the Democratic 1937 legislature. Both the commission and its recommendations became unofficially dead when legislative leaders closed the door to action on measures to regulate or to investigate the industry further.

At the same time, Rep. John H. McKinney of Venango County declared that other oil legislation, now in committees, is "dead." These included bills making wells producing over a barrel per day subject to proration, assessing a one-fifth cent per barrel tax on crude to finance proration, and a bill to regulate production and development of natural gas. The commission's report, described by Representative McKinney as "purely a partisan issue," concluded:

"In Pennsylvania the industry and market is dominated by a few companies whose relationship may be judged more accurately by their conduct of business and the effects of that conduct upon the public interest than by their professions of competition or by their intercompany, corporate and legal relationship.

"Within limits they are able to manage the price structure, trade practices and profits of the industry to their advantage and to the disadvantage of the public interest. The integropoly of Pennsylvania's oil industry is an immediate problem for a more comprehensive investigation and remedial legislation. Considering the financial ability of the 2 billion dollar Pennsylvania oil industry to raise obstacles to an investigation, the state's appropriation of $50,000 was inadequate."

It estimated the average cost per barrel in secondary recovery operations to be approximately $2.15 per barrel "under present conditions" and found that secondary recovery operations "may be safely undertaken only by those possessed of large financial reserves, and that the method is more certain to produce satisfactory results when applied to large areas by a single concern. Small secondary tracts are subject to the danger of contiguous competition."

The commission "disapproves of the present conduct of the posted price system for Pennsylvania grade crude." The report continued:

"Testimony indicates the prices is 'usually set by' two companies. . . When it (one of the companies) posts a higher price, the market usually follows. Moreover, it is a company which usually carries a large amount of oil in storage. When possessed of a substantial supply of bargain-bought crude, the result of its posting a price 10 cents higher is obvious. . . . Under proper conditions, the effect of posting a lower price carries equal possibilities. It could replenish its depleted reserves of stored oil at low prices. Later it could post a higher price and sell the purchased oil at a corresponding profit. . . . For the future protection of the public interest and that of the producers, closer scrutiny of the situation by a governmental agency is indicated. . . .

"We export annually large volumes of crude and fined products. We have an import duty on petroleum products. How can an impediment to importation do anything but stimulate the exhaustion of American reserves? The policy is one of preserving foreign petroleum deposits at the expense of American deposits. To date the outstanding achievement of the conservation policy is the conservation of money-making opportunities for large oil companies."

The commission said that "governmental agencies, through conservation-proration, limit the supply of oil and leave in the hands of private parties both the limited supply and the power to profit from the higher prices."

"The most meritorious recommendation heard by the commission is that the United States Government should take over the oil reserves of the entire country by purchase, operate them as a unit, sell the crude and let competition prevail beyond that."

Regarding independent refiners, the report stated:

"When we recall the conservation-proration system and the conditions created by it, the exchange of gasoline among large refineries, the dubious advertising campaigns, the advantages possessed by some large refineries in shipping gasoline by pipe lines and the dubious posted price system for Pennsylvania crude, the commission finds that the opportunities for independent refineries to successfully engage in the petroleum industry are limited. Those which have continued in the race occupy an insecure position based on tolerance."

Entering its discussion of marketing the commission condemned the practice of maintaining higher prices for unbranded gasolines. It said:

"It is undoubtedly to the advantage of major companies to secure and fortify their outlets for their refinery products. One means of assuring themselves of this control is by creation of a market which buys brand names and sells brand names. Padding the price of unbranded gasoline is one means of discouraging the selling of unbranded gasoline and privately branded gasoline. Unbranded gasoline sold at padded prices discourages competition against brands and reinforces market domination."

Marketing, the report said, is the "scene of ferocious competition" in "contrast with a background of cooperation and tolerance among major oil companies in the fields of production, transportation and refining." It finds that "retailing is the least profitable and the most competitive phase of the petroleum industry," and adds it is not surprising that large oil companies have adopted the Iowa plan since it "relieves the oil companies of the financial responsibility for maintaining pay rolls in the least profitable part of their business."

The report estimates that 40 per cent of all gasoline sold in Pennsylvania goes out through commercial consumer accounts which was deplored as making "the already precarious livelihood of the retailer even more insecure." The report said that "commercial consumer sales of gasoline are not regarded by the refining industry as sales which affect retailers nor as sales destined to reach retail consumers but the commission finds that . . . commercial consumer sales are part and parcel of the retail group." Despite this incongruity, it said, the retail station serves its purpose as a "glorified billboard" and a "propaganda station for combating unwanted legislation." While refiners ignore "minimum gallonage" specifications and retailers condemn the commercial consumer trade, the report contends, "The fact is that an easily understandable price structure would be inconsistent with the present conduct of the oil industry."

After reviewing price wars, it summarized by stating, "We are justified in saying that gasoline prices are rigged and unfair for the most part." It condemned subsidization as "a secret rebate upon the merchandise sold to the retailer, equivalent to price discrimination."

Pennsylvania State Capitol

INTERNATIONAL

Richberg Resumes Conferences on Mexican Seizure

Conferences between representatives of the oil companies whose properties were confiscated and of the Mexican Government were resumed in San Antonio, Tex., last week. The representatives were Donald R. Richberg, counsel for the oil companies, and Francisco Castillo Najera, Mexican ambassador to the United States. Modified optimism was expressed by Mr. Richberg, about the same opinion he has voiced throughout negotiations, judged on the text of special dispatches from San Antonio. Mr. Richberg held a long series of conferences early in March with President Cardenas at Mexico City. Their discussions were declared largely preliminary to determine if there exists a satisfactory basis for final settlement.

Early last week, the Mexican Supreme Court refused to interfere with the government's occupation and operation of the petroleum properties of the American-owned Compania Franco Espanola. The court ruled on the fourth ballot that the company should seek redress in the Ministry of National Economy. The company is a subsidiary of Continental Oil Co. and operated small producing properties in the Panuco district. Production in 1937 totaled 255,000 bbls.

The company argued that its properties were not listed in the Cardenas expropriation decree of March 18, 1938, and that there was no record of proceedings in the Ministries of Finance and Economy. The redress suggested by the court was regarded as impossible since no record of the expropriation of the company's properties could be found.

Colombian Output Reaches New Record In First Quarter

Colombian crude oil production during the first quarter of this year reached the record high figure of 5,088,883 bbls., exceeding the output for the same period in 1938 by 45,633 bbls. During March alone, Tropical Oil Co., operating subsidiary of International Petroleum Co., Ltd., produced 1,791,493 bbls., a daily average of 57,790 bbls., compared to 57,468 bbls. daily in February and with 58,539 bbls. per day in March 1938.

In Peru, International Petroleum Co. production is gradually declining. The production in March totaled 990,928 bbls., compared to 1,248,339 bbls. for the same month a year ago. The March daily average yield of 31,965 bbls. is 700 bbls. less than the average of 32,665 bbls. in February.

European Nations May Have Only Six Months' Oil Supply

It appears doubtful if any European nation has over a six-month oil supply. This opinion was expressed by Charles Will Wright, foreign mineral specialist, U. S. Bureau of Mines, whose review of conditions appears in a recent issue of "International Petroleum Trade." "Most countries in Europe," Mr. Wright said, "oblige the private oil companies to maintain a four-month oil supply; and although the governments have built storage basins for military supplies, it appears doubtful if any nation has over a six-month oil supply."

The opinion has significance in view of the general lack of information on extent of military petroleum supplies. The lack of qualifying statements indicates the six-month supply is on a peace-time basis. The fear that United States petroleum exports may be subjected to a sharp slump in this or succeeding years may be discounted to some extent if European nations are no more abundantly stocked with military supplies. The conclusions drawn by Mr. Wright are:

"Summarizing the petroleum situation in Europe one finds in the autarchic countries, Germany and Italy, that the optimistic plans for a large increase in domestic output and eventual self-sufficiency in motor fuels are far from being realized.

"Germany now produces less than a third of its requirements; and as consumption is increasing it is not likely that the German output of crude oil or synthetic gasoline will exceed a third of its requirements for some years. Rumania is Germany's most accessible source of supply; and if the Rumanian output could be commandeered, it would make Germany independent.

"The oil fields in Italy and Albania supply only 5 per cent of Italian requirements; and the outlook for any substantial increase is not promising. The two new plants at Bari and Leghorn of 300,000 tons annual capacity, built to refine the crude oil from Albania, will have to depend upon imported crude oil for two-thirds of their supply. Italy's position relative to imports is unfortunate, as 70 per cent of these imports enter the Mediterranean by Gibraltar; and in case of a war involving Germany it is doubtful if Italy could get much oil from Rumania.

"Production from the oil fields in Rumania is diminishing. An attempt is being made at government expense and by liberal legislation to encourage more intensive exploration by the foreign petroleum companies to improve the situation. As consumption is increasing in Rumania the tonnage available for export shows a large decrease.

"Poland likewise has a diminishing oil supply with high production costs, and its export trade has about disappeared.

"The oil reserves of U.S.S.R. are enormous; but the rising production curve has flattened out this last year and exports have been greatly reduced. Figures for 1938 show that drilling operations are under 40 per cent of the plan fulfillment. Exports have been greatly reduced and lack of oil supplies is having a serious effect on those industries where motor fuel is needed.

"New discoveries in Hungary are expected soon to make this country independent of imports.

"Both France and Great Britain depend upon imports for 98 per cent of their requirements and there is but little chance of increasing domestic output. These two countries, however, have important overseas concessions and are in position not only to import their requirements but to prevent Italy and Germany from obtaining oil from overseas sources."

Poland Planning Increased Drilling During Present Year

Polish crude oil production amounted to 326,451 bbls. in January 1939, a daily average of 10,531 bbls. Thirty new wells were completed in January, compared to 26 registered in December 1938, indicating the increase in exploitation activity scheduled for the current year. There were 28 refineries active during the month employing 3,177 men and 28 natural gasoline plants engaging 367 workers.

Drilling Contractor To Santo Domingo For Seaboard Test

A representative of the drilling contracting firm of Allen & Morris, San Antonio, Tex., is en route to Santo Domingo, where preparations are being made by Compania Seaboard Dominicana de Petroleo C. por A. for starting a wildcat test. The Dominican Seaboard Petroleum Co. is headed by John M. Lovejoy of New York. The company in January succeeded with several other American individuals in clearing titles to approximately 3,000,000 acres of concessions and exploratory grants. The first test is to be on Meleta dome. Included in the Dominican Seaboard holdings are the Higuerito, Monte Christi and El Commendor concessions. Harold Bishop of New York, a director of the company, individually holds the Yaguate concession which is contiguous to the Dominican Seaboard property.

Egyptian Fields Make Best Show In Five Years

Egypt produced 1,621,860 bbls. of crude oil last year for the highest total on record since 1934. Commercial exploitation of Anglo-Egyptian Oilfields, Ltd., new Ras Gharib structure started in August 1938, and for each month through December, the last month for which official figures are available, there was an uninterrupted series of increases in production. December production totaled 223,426 bbls., compared to 214,541 bbls. in November.

Egypt now is producing approximately 11,300 bbls. per day with the increase derived entirely from the Ras Gharib field in which Anglo-Egyptian is operating two rigs continuously. During the first three months of this year production amounted to approximately 942,300 bbls. compared to approximately 266,220 bbls. for the same period in 1938.

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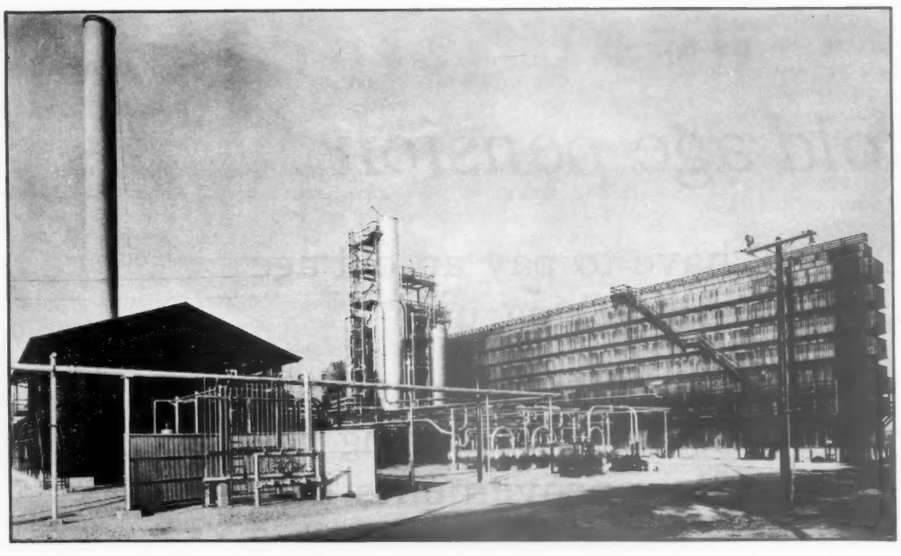

General Petroleum Corp.'s new viscosity-breaker at Torrance, Calif.

Natural Gasoline Production in California Reported for March

California natural gasoline production totaled 53,781,624 gallons in the month of March according to the San Francisco office of the Bureau of Mines. The quantity of gas treated and gasoline produced as reported by fields appear below:

Field—	Gas treated (M.C.F.)	Natural gasoline produced (gallons)
San Joaquin Valley:		
Belridge	3,780,926	2,114,345
Elk Hills	66,950	121,403
Kettleman Hills	10,210,450	15,009,441
Midway-Sunset	963,741	1,965,948
Mountain View	294,091	321,604
Miscellaneous	885,153	558,641
Coastal district:		
Elwood	462,455	628,419
Rincon	127,030	171,704
Santa Maria	120,653	369,756
Ventura Avenue	3,727,177	5,270,458
Miscellaneous	462,597	459,020
Los Angeles Basin:		
Brea-Olinda-Coyote	446,644	1,259,354
Dominguez	1,726,007	2,919,673
El Segundo	70,044	164,836
Huntington Beach	961,351	3,028,883
Inglewood	256,913	356,091
Long Beach	2,297,771	7,497,918
Montebello	786,795	731,662
Richfield	286,878	527,520
Rosecrans	1,419,747	1,346,473
Santa Fe Springs	1,497,191	5,031,033
Seal Beach	433,814	532,226
Torrance	592,150	1,056,013
Miscellaneous	1,252,777	2,339,203
Total (all fields)	33,129,305	53,781,624

DISTRIBUTION (Gallons)

Stocks, beginning of month	2,329,378	
Production during month	53,781,624	
Delivered to refineries		52,517,444
Delivered to jobbers, brokers, or blenders		565,082
Blended at plants for production of motor fuel		7,968
Losses		30,125
Stocks end of month		2,990,383
Total	56,111,002	56,111,002

Liquefied pet. gas prod. . 2,754,215 gals. = 65,577 bbls.
Motor fuel produced . . . 13,380 gals. = 319 bbls.

Inglewood Moves Plant To Potrero Field

Inglewood Gasoline Co. has closed a contract with Oil Field Construction Co., Long Beach, Calif., to dismantle its Signal Hill plant and reerect it in Section 34 of the Potrero field. The Signal Hill plant has not been operated for two years; its capacity has been rated at 12,000 gallons per day. The plant at the new location is to be completed June 1, 1939. After the plant is in operation the company plans to gradually dismantle equipment that is in good condition at its Inglewood plant for the purpose of adding it to the Potrero field plant; the Inglewood plant is rated at 4,000 gallons daily capacity. When all construction work is completed the Potrero plant will have a daily capacity of 20,000 gallons. Karl G. Steinbeck, superintendent, will be in charge of construction operations.

Grapeland Recycling Plant Ready for Operation

CROCKETT, Tex.—Completion of a $150,000 recycling plant for American Liberty Oil Co. of Dallas 2 miles northwest of Grapeland was announced Monday by Fowzer Construction Co. of Houston, represented by A. C. Turner and Dick Ross. High-pressure water tests will be made within the next few days.

The company has three Woodbine sand gas-distillate wells. The plant will extract distillate from gas taken from No. 1 J. E. Bean and No. 1 J. A. Bean, and the dry gas put back into the sand through No. 1 Moody Estate. The plant is expected to extract from 400 to 500 bbls. of distillate per day from 15,000,000 to 20,000,000 cu. ft. of gas.

Gas will be injected into the sand at 2,500 pounds pressure. Four 1,000-bbl. and two 750-bbl. storage tanks have been erected at the plant. Pipe lines from the wells and to a loading rack on the Missouri Pacific measure 5 miles.

Five residences are nearing completion on company property for employes, who will number 15, operating 24 hours a day.

Ten-day tests of the three wells credit each with an output gas volume above 200,000,000 cu. ft. daily. Each well tested more than 200 bbls. of distillate daily on 12,000,000 cu. ft. output.

Gasoline Sales Increasing On Island of Puerto Rico

In spite of increasing unemployment in Puerto Rico, the island's purchases of gasoline from refineries in continental United States amounted to 587,000 bbls. during the first nine months of the current fiscal year, an increase of 18 per cent over the same period a year ago, according to a statement by the Puerto Rican Trade Council, based on U. S. Department of Commerce figures.

"Construction of the new naval air base near San Juan and the proposed army air fields are expected to stimulate gasoline shipments markedly in the next few years.

"Automobile registrations on the island have been increasing gradually, although new car purchases are lower than a year ago."

Total sales to Puerto Rico during the nine months were $58,300,000, a decline of 9 per cent, the council said.

Mississippi Geologists Find Structure in Yazoo County

A bulletin issued by the Mississippi State Geological Survey just released tells of a structural "high" in Yazoo County discovered by Frederic F. Mellen, supervising geologist of the W.P.A.-Mississippi State Geological Survey, in the minerals survey of the county, in which the Yazoo County Chamber of Commerce and board of supervisors are acting as co-sponsor.

"The first indication of the structure," says the bulletin, "was noted in October, 1938, when a thin bed of bentonite in the Yazoo clay member of the Jackson formation, a bed believed to be a reliable stratigraphic marker, was determined to lie at 250 feet above sea level, 6 miles southeast of Yazoo City (C Section 26-11n-2w); at 225 feet, 2½ miles farther south (SW Section 2-10n-2w); at 220 feet, 9½ miles southwest of the latter place. (SE NE Section 32-10n-3w); and at elevations of normal southwest dip at points farther south. Approximately the same elevation of the bentonite bed at two places 9½ miles apart along the dip is the significant fact.

"In checking his Yazoo County stratigraphy in February, 1939, Mr. Mellen discovered 12 feet of the Moodys Branch marl member of the Jackson formation on Perry Creek, a mile southwest of Tinsley (SW cor. NW quarter Section 13-10n-3w), in an area where normally only younger Yazoo clays should have been exposed. Test Hole C-60 revealed the base of the Moodys Branch marl 6 feet below water level; and 26 feet of the underlying silty, lignitic, pyritiferous, argillaceous beds of the Yegua. At this place the base of the Moodys Branch marl is 150 feet above sea level; in Test C-34 in Yazoo City, 10 miles northeast, it is 15 feet above sea level; in a small stream 1½ miles south of Eden and about 9 miles northeast of Yazoo City, it is 160 feet above sea level. The inlier of the Moodys Branch marl on Perry Creek at an elevation of 150 feet above sea level shows, therefore, the Tinsley structure to have a northward contour closure of at least 135 feet—a structure so favorable for oil and gas accumulation as to warrant further geologic study and seismographic exploration.

"Although the existence of the Tinsley structure in a thickly loess-covered area is based largely on the evidence of a single outcrop of the Moodys Branch marl on Perry Creek, the structure of the higher bentonite bed tends to corroborate its presence; although all elevations are barometrically determined and are, consequently, not precise, and although the area was leased, seismologically surveyed, and surrendered some 10 years ago, nevertheless the Tinsley structure should be further explored, especially with a seismograph, to determine whether or not the subsurface structure is sufficiently pronounced to warrant a commercial test well, and especially should it be further explored for the reason that it lies less than 35 miles northwest of the Jackson gas field."

Borrowed Capital Employed In Texas Oil Industry

More than 646 million dollars of borrowed capital is employed by the Texas oil industry, according to a survey of bank loans and funded debt recently completed by the Texas Mid-Continent Oil and Gas Association.

Refinery Expansion

Shell Expands Refinery At Wood River, Ill.

Shell Oil Co., Inc., has awarded contract for construction of a combination cracking and coking unit at its Wood River, Ill., refinery. The unit is to be constructed by the Lummus Co. and will operate under patents of the Universal Oil Products Co.

The combination unit is designed to handle 18,000 bbls. of reduced crude per day. Completion of the unit is expected before the end of the year.

Court Decision in Favor of Universal Oil Products Co.

U. S. District Judge William H. Holly, at Chicago, handed down a decision in favor of Universal Oil Products Co. in its case against Globe Oil & Refining Co., of Illinois, charging infringement of two patents, one known as the clean circulation patent, and the other known as the two-coil selective cracking patent.

The two patents in the suit are the same two which were adjudged valid and infringed in the lawsuit of Universal vs. Root Refining Co., which Universal won in U. S. District Court at Wilmington, Del., in 1934. Appeal was taken by Root to the Circuit Court of Appeals in Philadelphia, which sustained the lower court.

In the present case, Judge Holly upheld Universal's contention that the decision of the court in Delaware in the Root case is res adjudicata against Globe in this suit.

Universal contended that Globe was bound by the court's decree in the Root case, inasmuch as Globe was a member of a voluntary association of Winkler-Koch still users, which conducted and controlled the Root defense.

Dr. M. R. Fenske to Speak To Bradford Group

The Bradford group of the N.P.A. department of manufacture has scheduled its next meeting for 6:30 p.m., May 8, at the Emery Hotel. Dr. M. R. Fenske, Pennsylvania State College, will speak on "Solvent Refining of Lubricating Oils."

Cosden Petroleum Corp. Plans Expansion

Henry Zweifel, president of Cosden Petroleum Corp. of Fort Worth, reports the company will improve and enlarge its refinery at Big Spring, in West Texas area, and in addition will build a combination refinery and gasoline plant in Young County, in North Texas. This decision follows settlement of suit of Joshua S. Cosden and his wife.

Refinery to Be Built At Pana, Ill.

Chase Savage of Evanston, Ill., has announced that Pana, Ill., has been chosen as the site of a $250,000 refinery. Savage said three engineers are now inspecting the location.

Construction Work on New Calgary Plant Completed

CALGARY, Alberta.—The new $1,250,000 refinery of the British American Oil Co. in East Calgary was placed in operation late in April. Formal opening of the plant after the test runs will take place early in May.

Licensing Announced for Alkylation Process

According to an announcement, the Alkylation process will be licensed under the patents of Anglo-Iranian Oil Co., Shell Development Co., Standard Oil Co. of New Jersey, and Texaco Development Corp. for the production of saturated high-octane aviation gasoline.

The process-reaction involves the alkylation of unsaturates with isoparaffins in the presence of concentrated sulfuric acid.

Announcement regarding the process was made by C. F. Braun & Co., Alhambra, Calif.

Natural Gas

Lone Star Gas Co. Reports First Quarter Earnings

PITTSBURGH, Pa.—Lone Star Gas Corp. reports for the three months ended March 31 consolidated net income of $2,987,600, equal to 54 cents a share on the capital stock. In the first quarter of 1938 the company made $2,284,383.

For the first 12 months ended March 31 net income was $6,007,321, equal after dividends on preferred stock, retired during the period, to $1.03 a share on the common stock. That was $100,000 more than was cleared in the preceding 12 months.

Federal Power Commission Hears Companies' Side

WASHINGTON, D. C.—The Pittsburgh & West Virginia Gas Co. denied to the Federal Power Commission that it charged Equitable Gas Co. an excessive rate for natural gas Equitable resold in Pennsylvania. The Pennsylvania Public Utility Commission had complained that the rate was too high.

The company's reply said the rate was fixed in a contract dated February 26, 1937, that it averaged 27.293 cents a thousand cubic feet in 1938, and actually was lower than a fair and reasonable charge because Pittsburgh & West Virginia lost $449,982.57 last year.

Manufacturer's Light & Heat Co. denied it charged an unreasonable rate to transport gas for Cumberland & Allegheny Gas Co. The commission had directed Manufacturer's to show why the commission should not determine the rate was "unduly discriminatory, or preferential" and why the commission should not investigate it.

Manufacturer's replied the agreement under which the rate was fixed was advantageous to Cumberland & Allegheny, its affiliate, because the affiliate had no pipe line connecting its gas wells in Braxton County, West Virginia, with its main compressor station or transmission lines.

Pipe Line Activity

Standard of Ohio Buys Into Kentucky Lines

CLEVELAND, Ohio.—Standard Oil Co. of Ohio is extending the policy by which it has become an important crude oil buyer in nearby states. Following pipe line acquisitions and construction in Michigan and Illinois, it has purchased half interest in Owensboro-Ashland Co., which operates line in the Owensboro, Ky., area and recently acquired properties of Illinois Pipe Line Co. in that territory.

Corpus-Rosa Pipe Line Starts Moving Oil

HOUSTON, Tex.—The Corpus-Rosa Pipe Line Co. started moving oil last week through its 6-inch welded line from the La Rosa field in Refugio County to Terminal Refining Co. at Corpus Christi, 32 miles. The line has a capacity of approximately 8,000 bbls. daily and two 4-inch lines will be laid to Houston Oil Co. tank farm at Refugio and to the recently opened Mellon Creek field, east of the Refugio townsite.

Control Gathering System Sold to Sinclair Co.

KILGORE, Tex.—Sale of the Control gathering system in the East Texas field by Jenkins Oil Corp., Dallas, to Sinclair Refining Co. was disclosed following a hearing before the state Tender Board, in which approval of overage oil was sought. The sale affects 93 wells to which the Jenkins system is connected.

Contract Awarded for Line From Arenac, Michigan

MOUNT PLEASANT, Mich.—Northern Pipe Line Co. has awarded contract to H. L. Gentry Engineering Co., Jackson, Mich., for construction of 55 miles of 6-inch electric-weld pipe line from the Arenac gas field to Midland, Mich. Pipe line construction and drilling program in this field involve a $250,000 expenditure.

On California Arabian Standard Oil Co. pipe line in Saudi Arabia

Programs and Meetings

Natural Gasoline Association Annual Meeting Program

The program for the annual meeting of the Natural Gasoline Association of America in Tulsa this week follows:

Wednesday, May 3

10:00 a.m.—Registration, mezzanine floor.

Afternoon session, opening address, C. E. Brock, vice president, Kansas Power & Light Co.

President's address: J. A. La Fortune, Warren Petroleum Corp.

Appointment of nominating committee.

Reports of standing committees covering work of past year and plans for 1939-1940.

Technical committee: R. E. Baker, Shell Oil Co., Inc., chairman. (Covering work on standardization of fractional analysis, methods and procedure, standardization of physical constants and other important activities.)

Traffic committee: N. A. Lindsay, Warren Petroleum Corp., chairman. (Committee studies of tankcar design and possible future procedure with reference to shipment losses.)

Gas testing committee: R. D. Turner, Skelly Oil Co., chairman. (Introducing a revised compression test code, experiments in elimination of pulsations in gas meters, new containers for charcoal.)

Gas contract committee: E. C. Le Fevre, Cities Service Oil Co., chairman. (Discussing work of committee with emphasis upon paper presented by James E. Allison.)

Thursday, May 4

Morning session.

"Economics of Catalytic Polymerization of Natural Butanes," F. B. Mack, Shamrock Oil & Gas Co., Amarillo, Tex.

"Applications of Thermal Polymerization," Kellogg Co., Humble Oil & Refining Co., and Phillips Petroleum Co. (The above papers will cover the application of the respective processes to natural gasoline operations.)

Presentation of the Hanlon award for outstanding individual service to the natural gasoline industry.

Noon: Luncheon, courtesy of the Natural Gasoline Supply Men's Association.

Afternoon session.

"The Outage Problem and a Possible Solution," J. R. Jarvis, Lone Star Gasoline Co. (A review of the whole outage problem, actual losses involved, methods, education, and equipment which might solve it.)

"Blending Modern Motor Fuels," W. B. Engelbrecht and H. M. Trimble, Phillips Petroleum Co. (This paper will indicate the position of natural gasoline in the changing trend of modern motor fuel specifications with particular reference to octane number.)

Motion picture in color of hydrocarbon mixture at critical point, Dr. George Granger Brown, University of Michigan.

"Casinghead Gas Contracting," James E. Allison, Hanlon-Buchanan, Inc. (Presenting the newly revised form of casinghead gas contract with a broad discussion of new provisions and revisions making it more applicable to present conditions.)

Thursday evening: Informal dance at the Tulsa Club, courtesy of the Natural Gasoline Supply Men's Association.

Friday, May 5

Morning: "Operating Kinks" session, devoted to the presentation of original operating ideas submitted by field, plant, and laboratory men. Entirely aside from the fact that it is a prize contest, this session is most valuable to operating men because of the discussions and the ideas presented.

"Safety in Natural Gasoline Operations," L. E. Hardy, Skelly Oil Co. (A review of practical safety methods.)

Noon: Luncheon, courtesy Natural Gasoline Supply Men's Association.

Afternoon: "Operating Kinks" session, a continuation of the morning session.

"It's Our Business," Ray E. Miller, Hanlon-Buchanan, Inc. (Setting forth the idea that the oil company employe is "the company" to a vast group of people whose good will is invaluable.)

Presentation of "Operating Kinks" prizes.

Chemical and Production A.G.A. Conference

The joint committee conference of the production and chemical committees of the American Gas Association to be held at the Sagamore Hotel, Rochester, N. Y., May 22-24, will include the following papers:

Monday, May 22, 10 a.m.: Light Oil Scrubbing for Gum Formers, S. Green, Brooklyn Union Gas Co.

Report of Gas Conditioning Committee, O. S. Hagerman, chairman, Atlantic Seaboard Corp.

Tuesday, May 23, 9:30 a.m.: The Results of Some Corrosion Tests of Metals and Alloys in the By-Product Coke Industry, O. B. J. Fraser and G. L. Cox, International Nickel Co., Inc.

Composition of Flue Gas After Combustion With Insufficient Air, L. O. Howell, A.G.A. Testing Laboratories.

Wednesday, May 24, 10 a.m.: Heavy Oil Operation, John Dopp, Wisconsin Power & Light Co.

2 p.m.: Mechanisms for Recording the Combustion Characteristics of Gases, A. R. T. Denues and Prof. Wilbert J. Huff, University of Maryland.

On the Determination of Water Vapor in Gaseous Fuels, Dr. A. W. Gauger, F. C. Todd and C. C. Haworth, Pennsylvania State College, State College.

National Petroleum Association Annual Meeting in September

The thirty-seventh annual meeting of the National Petroleum Association will be held on September 13, 14 and 15 at Atlantic City, N. J. Headquarters will be the Hotel Traymore.

Group meetings and committee meetings will be held on the morning of September 13. General sessions will be held in the afternoon of September 13 and 14, and a breakfast at the Seaview Golf and Country Club will be held September 15.

Tulsa Section of A.I.E.E.

The Tulsa Section, American Institute of Electrical Engineers will meet Monday, May 8 at 7:30 p.m., in the Chamber of Commerce dining rooms.

Leslie Lawrence, Oklahoma A. & M. College, will read a paper on "Fiber Glass as an Electrical Insulation."

Announcement of officers for the 1939-1940 year will be made and Joe McGinty, of the American Steel & Wire Co., will report on the convention at Houston.

MAGNETIC STORM

TUCSON, Ariz., May 1.—A severe storm began April 24 at noon and ended April 25 at 11 p.m., central standard time.

CALENDAR

May

NATURAL GASOLINE ASSOCIATION OF AMERICA, Hotel Tulsa, Tulsa, Okla., May 3-4-5.

AMERICAN PETROLEUM INSTITUTE, Division of Production, Kansas chapters in joint meeting, Lyons, Kans., May 5.

AMERICAN PETROLEUM INSTITUTE, Panhandle chapter, Division of Production, safety rally, May 9.

NATURAL GAS SECTION, A.G.A., annual meeting, Tulsa, May 8-11.

AMERICAN PETROLEUM INSTITUTE, ninth midyear meeting, Roosevelt Hotel, New Orleans, La., May 15-18.

NATIONAL OIL SCOUTS ASSOCIATION, Houston, Tex. May 18-20.

NATIONAL ASSOCIATION OF PURCHASING AGENTS, annual convention (Oil Company Buyers' Group), Fairmont Hotel, San Francisco, Calif., May 21-25.

WORLD AUTOMOTIVE ENGINEERING CONGRESS, sponsored by S.A.E. for New York (May 22-26), Indianapolis (May 20), Detroit (May 31-June 2), San Francisco (June 6-8), May 22-June 8.

June

ILLINOIS-INDIANA PETROLEUM ASSOCIATION, seventh annual conference, Robinson, Ill., June 3.

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION, Hotel Hershey, Hershey, Pa., June 15-16.

THIRTEENTH INTERNATIONAL CONGRESS OF CARBIDE, ACETYLENE, OXYACETYLENE WELDING AND ALLIED INDUSTRIES, Munich, Germany, June 25-July 1.

AMERICAN SOCIETY FOR TESTING MATERIALS, forty-second annual meeting, Chalfonte Haddon Hall, Atlantic City, N. J. June 26-30.

August

MICHIGAN OIL AND GAS EXPOSITION, Mount Pleasant, Mich., Aug. 1-6.

September

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, New York. September 4-8.

OIL WORKERS INTERNATIONAL UNION, Hammond, Ind. September 5.

AMERICAN CHEMICAL SOCIETY, Detroit, Mich. September 9-13.

NATIONAL PETROLEUM ASSOCIATION, 37th annual meeting, Hotel Traymore, Atlantic City, N. J., September 13-15.

October

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, tenth annual meeting, Fort Worth, Tex.

NATIONAL SAFETY CONGRESS AND EXPOSITION, Chalfonte Haddon Hall, Atlantic City, N. J. October 16-20.

November

AMERICAN PETROLEUM INSTITUTE, twentieth annual meeting, Stevens Hotel, Chicago, November 13-17.

ENGINEERING and OPERATING

In This Issue

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BLENDING OF OPTIONAL MOTOR FUELS TO INCREASE OCTANE VALUE
By W. B. Engelbrecht, Harold M. Trimble, and Harold I. Hoover . . *Page 46*

Not only in regard to octane number have motor fuels changed, but there has been a definite trend toward seasonal control of the volatility by more oil companies; most economical blending is explained.

GASOLINE PLANT AT RHODES POOL, IN NORTH CENTRAL TEXAS
By D. H. Stormont . . . . . *Page 48*

A gasoline plant has recently been completed in a North Central Texas pool which is owned jointly by a group of operators who have joined together in a recycling project.

REVISED METHOD OF TESTING GASOLINE CONTENT OF NATURAL GAS
Page 52

Cooperative work has been in progress for more than a year on the part of committees of two associations for the purpose of revising the compression test code for adoption for general use; the code in its new form is presented.

THREE DIFFERENT WAYS OF ANALYZING CRUDE OIL DATA
By W. L. Nelson . . . . . *Page 54*

Data obtained in analyzing Rodessa crude are given in graphic form to show means for arriving at evaluation of yields and properties of products that may be produced from a crude oil.

GAS LIFT NOW BEING WIDELY ADOPTED THROUGHOUT WEST TEXAS
By D. H. Stormont . . . . . *Page 56*

A review is presented of the gas lift practices in West Texas where there has been a growing use of this means of producing oil under conditions of declining reservoir pressures, increasing production of water, floating sand, and small allowables.

CATALYTIC POLYMERIZATION OF BUTANES FROM NATURAL GAS
By F. B. Mack . . . . . *Page 60*

Attention is given to the effect of economic factors on the operation of processes for converting light natural gasoline fractions into motor fuel.

PULSATIONS ON GAS TESTING CAR REDUCED TO IMPROVE METERING
By R. D. Turner . . . . . *Page 67*

A number of details connected with gas tests are discussed which have been considered by a group that has been studying methods during the past year.

OPERATING IDEAS . . . . . *Page 73*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph.D.* . . . . . *Page 75*

Blending of

By W. B. ENGELBRECHT
HAROLD M. TRIMBLE and
HAROLD I. HOOVER
Phillips Petroleum Co.

NOT only in regard to octane number have motor fuels changed but there has been a definite trend toward seasonal control of their volatility by most oil companies. A study was made of the data from many blending experiments to determine if suitable charts could be prepared to indicate the characteristics of a blend of any two fuels. The results of this study are presented herein.

The recent increase in octane number level of third-grade motor fuels from around 50-55 octane number to 67 octane number (L-3 method) may cause some changes in the manufacture of this product. A study was also made to show the advantages which may be gained by the use of natural gasoline in the production of this relatively high octane number third-grade motor fuel. . . .

Materials Used

In the securing of data for this problem base stocks were selected with the idea of covering a range of gasolines in ordinary usage. The stocks studied varied from 50 L-3 octane number to 62 L-3 octane number. . . .

Natural gasolines of 12- and 26-pound Reid vapor pressure, representing one of the lower octane number products in order to secure conservative results, were obtained for this study. An 18-pound natural gasoline was prepared by blending portions of these materials together. . . .

N.G.A.A. **—Paper presented before annual meeting Natural Gasoline Association of America, Tulsa, May 3, 4, 5, 1939**

Results

The compositions of all samples tested are shown in Table 1. Corresponding inspection and antiknock data are given in Table 2.

A chart for blending with natural gasoline to given vapor pressures has been developed in the laboratory from various data and is shown as Figure 1. Figure 2 is a similar chart, developed from the same data, to use in blending for distillation characteristics.

From the antiknock data in Table 2-B, several relationships have been prepared to show the advantages, that is, TEL savings to be derived from the use of natural gasoline in the manufacture of 67 L-3 octane number gasoline. In Figure 3 the actual cc. of TEL per gallon saved are indicated when various vapor pressure natural gasolines are blended in concentrations up to 50 per cent with base stocks requiring up to 2.5 cc. TEL per gallon to 67 L-3 octane number. The TEL savings are interpreted in terms of dollars saved per 1,000 bbls. of finished 67 octane number gasoline in Figure 4. For convenience in computing TEL requirements a third chart (Figure 5) was constructed from the data. TEL requirements of blends to 67 L-3 octane number can be determined given the TEL requirement of the base stock and the percentage and vapor pressure of the natural gasoline to be used.

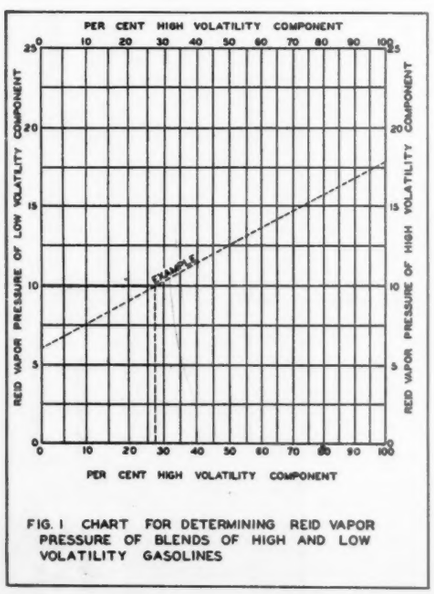

PER CENT HIGH VOLATILITY COMPONENT
REID VAPOR PRESSURE OF LOW VOLATILITY COMPONENT
REID VAPOR PRESSURE OF HIGH VOLATILITY COMPONENT
EXAMPLE
PER CENT HIGH VOLATILITY COMPONENT

FIG. 1 CHART FOR DETERMINING REID VAPOR PRESSURE OF BLENDS OF HIGH AND LOW VOLATILITY GASOLINES

Methods of Using Figures

Figure 1 is helpful in blending to Reid vapor pressure specifications. Probably the greatest use of the chart will be that of blending a desired vapor pressure when the vapor pressures of the base stock and natural gasoline are known. An illustration of this use follows. What percentage of 18-pound gasoline is required to blend with a 6-pound base stock to produce a finished blend having a Reid vapor pressure of 10 pounds? It will be observed that the left- and right-hand vertical scales of Figure 1 represent Reid vapor pressures of the low- and high-volatility components, respectively. The percentage of high-volatility component is found on the horizontal scale. In the case mentioned above, any combination of the 6- and 18-pound materials will fall on a single straight line connecting 6 on the left-hand vertical scale with 18 on the right-hand vertical scale. The intersection of this straight line with the horizontal 10-pound Reid vapor pressure line indicates that 27 per cent of the 18-pound natural gasoline will be required to make a finished blend of 10 pounds vapor pressure. For illustration this example is sketched on the figure.

In similar manner Figure 1 may be used for estimating the vapor pressures of finished blends when various combinations of base stock and natural gases are used. . . .

Reid vapor pressure data covering a wide range of base products and blends were used in the preparation of the vapor pressure chart. Therefore, fairly accurate estimates should result from its use although variations may be encountered with different stocks. The portion of the chart between 50 per cent and 100 per cent volatility component was prepared from rather meager data and, consequently, may be less dependable than the remainder of the chart. . . .

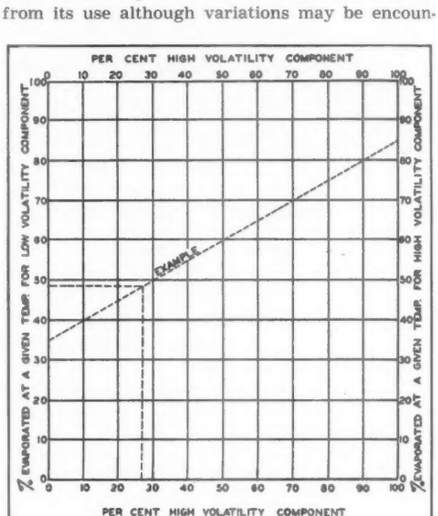

PER CENT HIGH VOLATILITY COMPONENT
% EVAPORATED AT A GIVEN TEMP. FOR LOW VOLATILITY COMPONENT
% EVAPORATED AT A GIVEN TEMP. FOR HIGH VOLATILITY COMPONENT
EXAMPLE
PER CENT HIGH VOLATILITY COMPONENT

FIG. 2 CHART FOR DETERMINING PER CENT EVAPORATED AT ANY GIVEN TEMPERATURE OF BLENDS OF HIGH AND LOW VOLATILITY GASOLINES

A chart (Figure 2) for blending to volatility specifications was develcped from the same data

TABLE 1—COMPOSITION OF ALL SAMPLES VOLUME PERCENTAGE

Identification:	12-Pound natural gasoline	18-Pound natural gasoline	26-Pound natural gasoline	50 oct. No. base stock	56 oct. No. base stock	62 oct. No. base stock
23770-A7	100	...	...	...	...	...
23770-A11	...	100	...	...	...	...
23770-A12	...	...	100	...	...	...
23770-A6	...	...	...	100	...	...
23770-A13	...	...	...	...	100	...
23770-A14	...	...	...	...	...	100
23770-A15	15	...	...	85	...	...
23770-A16	15	...	...	...	85	...
23770-A17	15	...	...	...	...	85
23770-A18	30	...	...	70	...	...
23770-A19	30	...	...	...	70	...
23770-A20	30	...	...	...	...	70
23770-A21	50	...	...	50	...	...
23770-A22	50	...	...	...	50	...
23770-A23	50	...	...	...	...	50
23770-A24	...	15	...	85	...	...
23770-A25	...	15	...	...	85	...
23770-A26	...	15	...	...	...	85
23770-A27	...	30	...	70	...	...
23770-A28	...	30	...	...	70	...
23770-A29	...	30	...	...	...	70
23770-A30	...	50	...	50	...	...
23770-A31	...	50	...	...	50	...
23770-A32	...	50	...	...	...	50
23770-A33	...	...	15	85	...	...
23770-A34	...	...	15	...	85	...
23770-A35	...	...	15	...	...	85
23770-A36	...	...	30	70	...	...
23770-A37	...	...	30	...	70	...
23770-A38	...	...	30	...	...	70
23770-A39	...	...	50	50	...	...
23770-A40	...	...	50	...	50	...
23770-A41	...	...	50	...	...	50

Motor Fuels

and is used in the same manner as Figure 1. So if the distillation characteristics of the base stock and natural gasoline are known the characteristics of their blends can be determined, or blends may be made to desired specifications if the characteristics of the base stock are known. The following example shows the use of Figure 2: If the percentage evaporated at 212° F. of the 6-pound Reid vapor pressure base stock used in the illustration is 35.0 and that of the 18-pound natural gasoline 85.0, what would be the percentage evaporated at 212° F. of the 10-pound vapor pressure finished blend? Again the low-volatility component is represented on the left-hand vertical scale, the high-volatility component on the right-hand scale, and the percentage high-volatility component on the horizontal scale. The intersection of the 27 per cent natural gasoline line and a straight line connecting 35.0 and 85.0 on the left- and right-hand vertical scales, respectively, indicates a finished blend with about 48.5 per cent evaporated at 212° F.

The percentage evaporated at any temperature may also be calculated from the following formula:

$$PA + (100—P)B = 100C$$

Where:

- A = Percentage evaporated of the natural gasoline
- B = Percentage evaporated of the refinery base
- C = Percentage evaporated of the blend
- P = Percentage of natural gasoline.

The test values for the samples included in this report for percentages evaporated at various temperatures checked quite closely throughout most of the distillation range with the values determined from the chart. The largest discrepancies were found at the lower distillation temperatures.

The various relationships developed from the antiknock data are shown in Figures 3 to 5, inclusive. The following example illustrates the uses of these charts: Assume a base stock requiring 1.6 cc. TEL per gallon to 67 L-3 octane number. What would be the effect of blending this stock with 30 per cent of 18-pound natural gasoline? A saving of 0.64 TEL per gallon by the use of the natural gasoline is indicated in the 18-pound natural gasoline section of Figure 3 by the intersection of the 30 per cent natural gasoline curve and the 1.6 cc. base stock TEL requirement coordinate. In Figure 4 by following the 30 per cent natural gasoline coordinate to its intersection with an interpolated curve for 1.6 cc. base stock requirement this saving is converted to a monetary value of nearly $75 saved in TEL bill for every 1,000 bbls. of 67 L-3 octane number gasoline produced. . . .

Figures 3 and 4 show that savings up to 0.73 cc. TEL per gallon or $80 per 1,000 bbls. of finished gasoline are realized when 12-pound natural is blended in concentrations up to 50 per cent with a base stock requiring 1.5 cc. TEL per gallon to 67 L-3 octane number. These figures are increased to 1.13 cc. or $122 saved when 26-pound Reid vapor pressure natural gasoline is used. For a base stock requiring 0.5 cc. TEL per gallon savings would be up to 0.13 cc. TEL per gallon or $14 per 1,000 bbls. for 12-pound natural gasoline and 0.46 cc. or $51 for the 26-pound natural gasoline. For a base stock requiring 1.0 cc. per gallon the corresponding savings would be up to 0.38 cc. or $42 for the 12-pound natural gasoline and up to 0.79 cc. or $85 for the 26-pound natural gasoline. At a requirement of 2.0 cc. TEL per gallon for the base stock the savings would be up to 1.10 cc. or $120 and 1.53 cc. or $167 for the 12- and 26-pound naturals respectively. . . .

TABLE 2—A. INSPECTION DATA FOR ALL BASE STOCKS AND BLENDS

Identification:	First drop	Temp. at % evap., °F. 10	50	90	Endpoint	Per cent rec.	Per cent loss	A.P.I. gravity	Per cent evap. at 212 °F.	R.V.P.	Per cent sulfur
23770-A7	90	107	143	232	329	97.4	1.8	77.8	84.3	12.80	0.006
A11	72	86	131	228	335	97.3	1.9	81.3	85.7	18.15	....
A12	64	64	100	215	333	87.2	12.1	87.1	89.3	26.10	....
A6	95	157	262	360	410	98.7	0.6	59.9	26.8	6.35	0.021
A13	101	151	247	347	398	98.6	0.7	60.3	33.3	6.55	0.046
A14	100	151	249	352	400	98.8	0.7	59.8	33.9	6.75	0.049
A15	94	140	247	353	408	97.9	1.2	62.1	36.2	7.35	....
A16	98	139	233	341	405	98.0	1.1	62.7	40.6	7.50	....
A17	97	135	230	341	397	98.1	1.3	62.1	42.0	7.90	....
A18	95	133	227	348	409	97.8	1.2	64.7	43.6	8.45	....
A19	97	130	215	330	393	98.0	1.2	65.2	49.0	8.55	....
A20	93	127	212	335	407	98.1	1.2	64.7	50.1	8.85	....
A21	92	121	199	334	409	98.7	1.0	68.2	55.8	9.80	....
A22	92	121	190	318	395	98.3	0.8	68.9	59.2	10.00	....
A23	93	119	189	320	395	97.9	1.1	68.3	59.5	10.00	....
A24	96	137	247	352	414	97.9	1.3	62.8	34.5	8.00	....
A25	98	134	232	343	408	97.9	1.3	63.2	41.0	8.40	....
A26	91	130	229	345	397	98.0	1.2	62.6	42.5	8.85	....
A27	90	123	230	349	414	97.2	1.7	65.6	42.8	10.30	....
A28	90	121	215	335	400	97.8	1.5	66.2	48.7	10.50	....
A29	89	118	213	336	399	97.6	1.5	65.5	49.6	10.80	....
A30	86	106	194	329	403	96.8	2.5	69.9	56.4	12.55	....
A31	89	106	187	316	398	96.0	3.1	70.1	60.3	12.75	....
A32	88	106	185	318	393	96.5	3.1	69.7	60.0	13.05	....
A33	87	128	250	351	412	97.4	1.9	63.1	34.9	9.75	....
A34	87	126	233	337	404	97.8	1.4	63.7	40.5	9.90	....
A35	87	123	230	337	395	97.8	1.3	63.2	42.6	10.00	....
A36	81	106	225	347	412	95.0	4.1	66.9	45.1	12.80	....
A37	83	105	210	329	392	96.5	2.7	67.3	50.5	13.10	....
A38	84	104	210	335	402	95.8	3.2	66.9	50.8	13.05	....
A39	77	92	190	332	406	96.7	2.5	72.0	58.0	17.10	....
A40	74	88	177	319	394	96.1	2.9	72.3	61.8	17.30	....
A41	78	90	175	324	396	95.9	3.1	72.2	61.7	17.35	....

TABLE 2—B. ANTIKNOCK DATA FOR ALL BASE STOCKS AND BLENDS

Identification	Octane numbers (L-3 method) cc. TEL per gallon 0.0	0.5	1.0	2.0	3.0
23770-A7	62.7	70.7	77.0	82.8	85.3
A11	66.7	74.4	81.0	86.0	...
A12	72.0	80.1	85.4	*87.4	...
A6	49.6	55.8	61.2	69.0	73.2
A13	56.4	61.7	66.2	70.9	73.8
A14	62.4	67.3	70.7	74.3	77.0
A15	55.1	57.9	63.5	71.2	75.0
A16	57.5	62.7	67.3	72.3	75.3
A17	62.4	67.4	71.2	75.4	78.2
A18	53.5	59.9	66.1	73.5	77.0
A19	58.2	63.9	68.4	73.6	76.8
A20	62.7	67.7	71.6	76.4	79.2
A21	56.7	62.9	69.1	76.2	79.6
A22	59.0	65.1	70.0	75.4	78.9
A23	62.7	68.5	72.9	77.5	80.3
A24	52.2	58.5	64.3	71.8	75.6
A25	58.4	63.1	67.7	72.8	76.0
A26	62.9	67.7	71.6	75.7	78.4
A27	54.6	61.0	67.2	74.6	78.2
A28	59.3	65.0	69.5	74.7	77.6
A29	63.9	69.1	72.8	77.3	79.9
A30	57.5	64.7	71.0	77.7	81.1
A31	61.5	67.4	71.8	77.3	80.6
A32	64.3	70.0	74.3	79.0	81.4
A33	53.1	59.5	65.3	72.4	76.1
A34	58.7	63.7	68.2	73.3	76.6
A35	63.7	68.3	71.9	76.0	78.6
A36	56.5	62.9	69.0	75.7	79.0
A37	60.6	66.1	70.4	75.6	78.7
A38	65.3	70.2	73.6	78.0	80.6
A39	61.1	68.0	73.8	80.1	83.0
A40	63.7	69.6	74.2	79.2	82 0
A41	66.7	72.0	76.1	80.7	83.1

*1.5 cc. TEL per gallon.

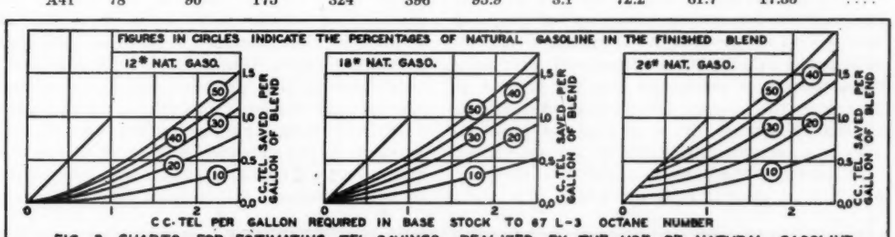

FIGURES IN CIRCLES INDICATE THE PERCENTAGES OF NATURAL GASOLINE IN THE FINISHED BLEND
12# NAT. GASO.
18# NAT. GASO.
26# NAT. GASO.
CC. TEL SAVED PER GALLON OF BLEND
CC-TEL PER GALLON REQUIRED IN BASE STOCK TO 67 L-3 OCTANE NUMBER

FIG 3 CHARTS FOR ESTIMATING TEL SAVINGS REALIZED BY THE USE OF NATURAL GASOLINE

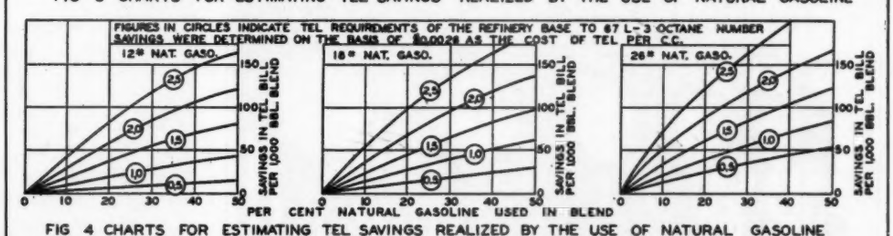

FIGURES IN CIRCLES INDICATE TEL REQUIREMENTS OF THE REFINERY BASE TO 67 L-3 OCTANE NUMBER
SAVINGS WERE DETERMINED ON THE BASIS OF $0.0028 AS THE COST OF TEL PER CC.
12# NAT. GASO.
18# NAT. GASO.
26# NAT. GASO.
SAVINGS IN TEL BILL PER 1,000 BBL. BLEND
PER CENT NATURAL GASOLINE USED IN BLEND

FIG 4 CHARTS FOR ESTIMATING TEL SAVINGS REALIZED BY THE USE OF NATURAL GASOLINE

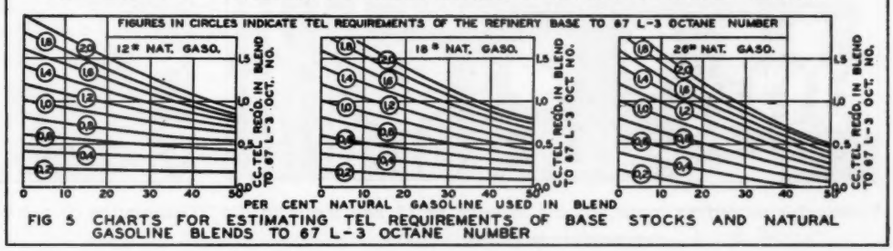
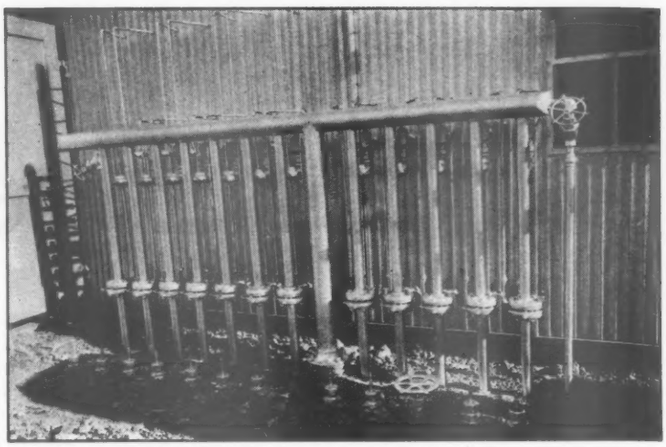

FIGURES IN CIRCLES INDICATE TEL REQUIREMENTS OF THE REFINERY BASE TO 67 L-3 OCTANE NUMBER
12# NAT. GASO.
18# NAT. GASO.
26# NAT. GASO.
CC. TEL REQD. IN BLEND TO 67 L-3 OCT. NO.
PER CENT NATURAL GASOLINE USED IN BLEND

FIG 5 CHARTS FOR ESTIMATING TEL REQUIREMENTS OF BASE STOCKS AND NATURAL GASOLINE BLENDS TO 67 L-3 OCTANE NUMBER

GASOLINE PLANT AT RHODES POOL

By D. H. Stormont



Header on the residue line for distributing high-pressure gas to 2-inch lines leading to the injection wells. Recording meters are placed inside the building thus doing away with many trips to the wells for regulating gas flow and charging charts

Rhodes Pool Gasoline Co. late in April placed in operation a new gasoline and repressuring plant in the Rhodes field, Jack County, Texas, that is thoroughly modern in every respect. The plant, of the compression type, was built by a group of the field's operators for maintaining formation pressures and thereby increasing ultimate recovery. The new company is composed of Hanlon-Buchanan, Inc., Ohio Fuel Supply Co., Hammon and Herbert of Wichita Falls, Tex., and Hamilton and Hammond of Wichita Falls. Location of the plant is on Hamilton Petroleum Co.'s A. B. Kuykendall lease in Rattlesnake Canyon, 6 miles southeast of Bryson.

Each operator controls his own lease, but the plant is jointly owned and controlled by a board of directors. The directors select an engineer who supervises injection volumes and produced gas-oil ratios, and the gasoline plant operation.

A total of 57 producing wells are incorporated in the repressuring project, producing either from a 2,400-foot pay or a 3,000-foot pay. For returning the high-pressure residue gas to the sands 12 input or key wells are used, six in each pay. Production is from sand lenses of the Strawn group and original bottom-hole pressures of the wells was around 900 pounds. As is typical of Strawn sand pools, this rapidly declined and after some three months of production was 650 pounds. In July 1938, the average bottom-hole pressure was around 350 pounds and at present the pressures vary from around 200 pounds to 330 pounds.

Capacity of the plant is 2,250,000 cu. ft. daily, although at present it is processing only about 2,000,000 cu. ft. Compression is in two stages, from about 6 inches Hg to 70 pounds in the first stage and from 70 to 350 pounds in the second. Wells are produced so as to carry about zero pounds pressure on the separator.

The plant itself is very compact in design and a maximum of streamlining was built into its layout. With the exception of one boiler feed pump, all pumping equipment is placed about the plant yard as nearly as possible in line with the piping. The two cooling water pumps are placed at the base of the cooling tower, the stabilizer charge pump and reflux pump at the base of the stabilizer and the loading pump at the storage tank site. This eliminates construction of a building for housing the equipment as well as reducing the amount of piping required and the number of bends in the lines.

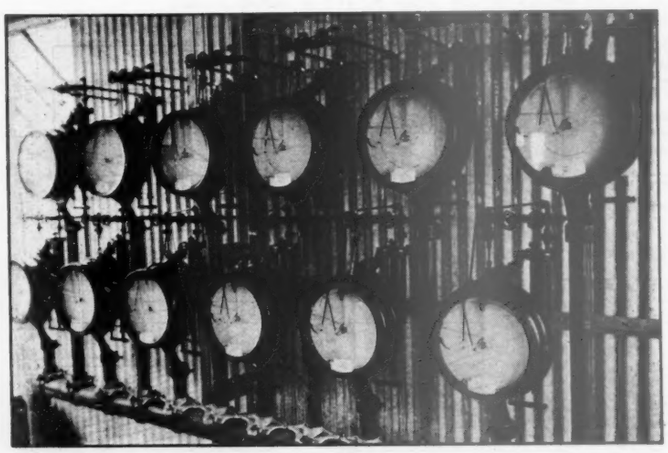
Compact Arrangement

Placement of various vessels and equipment was designed to give comparatively small yard area and yet eliminate crowding. Practically all indicating and recording equipment is placed either on a control panel at the base of the stabilizer or in the engine room. The stabilizer instrument panel contains a stabilizer base temperature recorder controller, top plate temperature recorder, and pressure recorder controller. The pressure recording controller actuates a motor valve in the residue gas line and thus controls back pressure on the stabilizer. Control of the plant is almost entirely automatic, as modern practice dictates, and through the compact layout of equipment all units are easily accessible, thus simplifying work of the operators.

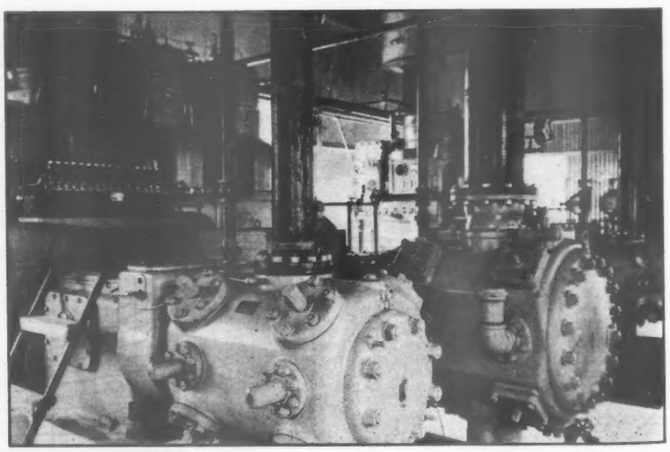
One of the greatest departures from ordinary practice followed in Mid-Continent plants is the placement of the recording meters on the input gas lines leading to the key wells. Usual practice calls for laying of distribution lines to the field with smaller laterals running from these lines to the wells. Under this system the recording meters are placed at the wells and require the employment of at least one man to check the meters and change charts.

In the Rhodes pool plant the high-pressure gas, after it has been stripped of its natural gasoline content, goes to a manifold as is shown in the accompanying flow chart. Gas return lines, 12 at present, lead directly from the manifold to the key wells. The Foxboro recording meters are connected to each line just below the manifold and the instruments placed in the engine room. By this method the engine room operator can see at any time what volume each key well is taking and easily regulate the input to each well without leaving the plant yard. More pipe is required under this layout, but this cost is offset by use of smaller diameter pipe and the ease of regulation gained by having the meters located at the plant.

Safety of operation is another feature of the plant. A mercury switch on the incoming gas scrubber will shut down the engines if ever the liquid level in the drip becomes too high. Relief valves are placed on all pressure vessels, on both the high- and low-stage cycles of the engines and



Battery for recording input volume to each of 12 key wells in the repressuring project



Gas-engine driven compressors in the Rhodes Pool plant are modern angle-type equipment

at strategic points in the lines. Liquid level controllers on all gas-liquid separation vessels prevent the fluid level from building up too high and endangering the engines through getting a slug of liquid. All high-pressure lines are laid underground in the plant yard.

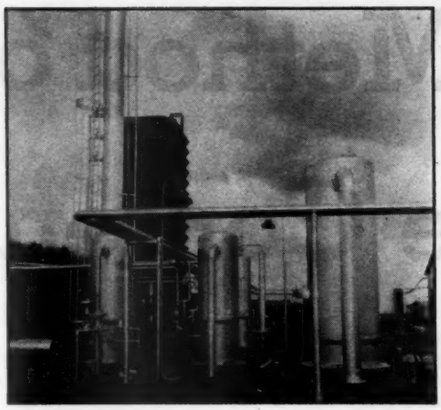
Plant Flow

Flow through the plant closely follows that of other modern natural gasoline and repressuring plants in the Mid-Continent. (See Figure 1.) Gathering lines from the various leases connect to a 10-inch header and from here incoming gas passes through a regulator, precooler and then to the scrubber. The gas then passes to the header from which the 23- by 14-inch low-stage cylinders of the two 250-hp. Clark angle-type compressors take suction. In this stage the gas is boosted to around 70 pounds pressure and passed through the low-stage coil in the cooling tower where it goes to the interstage accumulator.

Gas from the accumulator is returned to the 11- by 14-inch high-stage cylinders where it is compressed to 350 pounds. After being cooled it then goes to the high-stage accumulator where any remaining condensed gasoline vapors are knocked out. The high-pressure residue then goes either to fuel or to the manifold for use in repressuring.

The condensed raw gasoline fractions in the low-stage accumulator join any liquids knocked out in the suction scrubber and is pumped into the high-stage system at a point after the high-stage gas has been cooled. In this way the heavier raw fractions again contact the gas and uncondensed gasoline vapors and can act as an "absorption oil" or serve to lower the dew point, or both, to further condense or strip the gases of light gasoline fractions. Flow of raw gasoline from the low-stage accumulator is controlled by a Hanlon-Waters liquid-level controller. The controller actuates a motor valve in the steam line serving the 6- by 3- by 6-inch slow-speed reciprocating transfer pump, speeding it up or slowing it down as the fluid level in the accumulator tank requires.

Flow of the combined streams of raw gasoline from the high-stage accumulator is also controlled by a liquid level controller. After passing through a heat exchanger the gasoline enters a



Stabilizer, high- and low-stage accumulators and incoming gas scrubber

46.5-foot, 30-tray stabilizer, entering the column about midway from the top. In manufacturing an 18-pound vapor pressure gasoline, about 225 pounds pressure is carried on the tower with a base temperature of around 257° F. and a top temperature of about 110° F.

Heat for operation of the stabilizer is supplied by an external horizontal-type reboiler, a Foxboro temperature recording controller being used to actuate a valve in the steam line to increase or reduce flow of steam into the reboiler. By use of this type control the tower base temperature can fluctuate only within very narrow limits. The finished gasoline leaves the tower through a liquid level control and passes through the heat exchanger, cooler coils and then moves to storage.

The light overhead fractions are cooled in a reflux condenser and pass to the reflux tank. A 6- by 4- by 12-inch reflux pump boosts the condensed fractions back over the tower for controlling the tower top temperature. The uncondensed vapors leave the reflux tank through a recording controller which regulates the back pressure held on the tank. Arrangement was made in the plant's layout for burning these uncondensable vapors as boiler feed or for recirculating them through the plant. Continued recirculation of these very light ends will tend to allow them to be further stripped of gasoline fractions.

Finished gasoline is stored in two 15,000-gallon pressure storage tanks and trucked from the plant. At present some 2,500 gallons of 18-pound natural is being extracted daily, or a recovery of about 1.25 gallons per 1,000 cu. ft. of gas.

A closed jacket-water cooling system is used, condensed steam being used to supply the necessary make-up water. Since the plant's steam requirement is comparatively small, only one 70-hp. 200-pound working pressure boiler is used. Electricity for plant operation and for flood lighting at night is supplied by a 7½ kw., 3 phase, 60 cycle 120 volt A.C. generator direct connected to a turbine. Ordinarily high-pressure gas is used to drive the turbine, but provision has been made for its operation also on steam. Air compression and storage equipment, for starting the 250-hp. compressors, consists of a 12-cu. ft. displacement, two-stage air compressor driven by a gas engine and two 250-pound test air tanks of 35-cu. ft. capacity.

The cooling tower has the dimensions of 23 feet by 24 feet by 45 feet high. It was designed to cool 357 gallons of water per minute from 108° to 85° F. with a wet bulb temperature of 78° F. and a wind velocity of 3 miles per hour. Two cooling water pumps, one of which acts as a standby, are direct driven by 12-hp., 2,950 r.p.m. steam turbines and have a 400-gallon per minute capacity pumping against a 71-foot head.

Field Gas System

A plat of the Rattlesnake Canyon area is shown in Figure 2. For handling incoming gas, gathering lines of the following sizes and lengths were laid: 1,250 feet of 2-inch, 4,880 feet of 3-inch, 1,500 feet of 4-inch, 5,250 feet of 5-inch, and 1,990 feet of 6-inch. For returning the high-pressure gas to key wells, 18,000 feet of 2-inch seamless pipe was laid.

The residue gas leaves the plant at pressures sufficiently high to give input pressures ranging from 200 to 330 pounds on the key wells. In starting up the project relatively small gas volumes approximating 40,000 cu. ft. daily are be-

(Continued on Page 70)

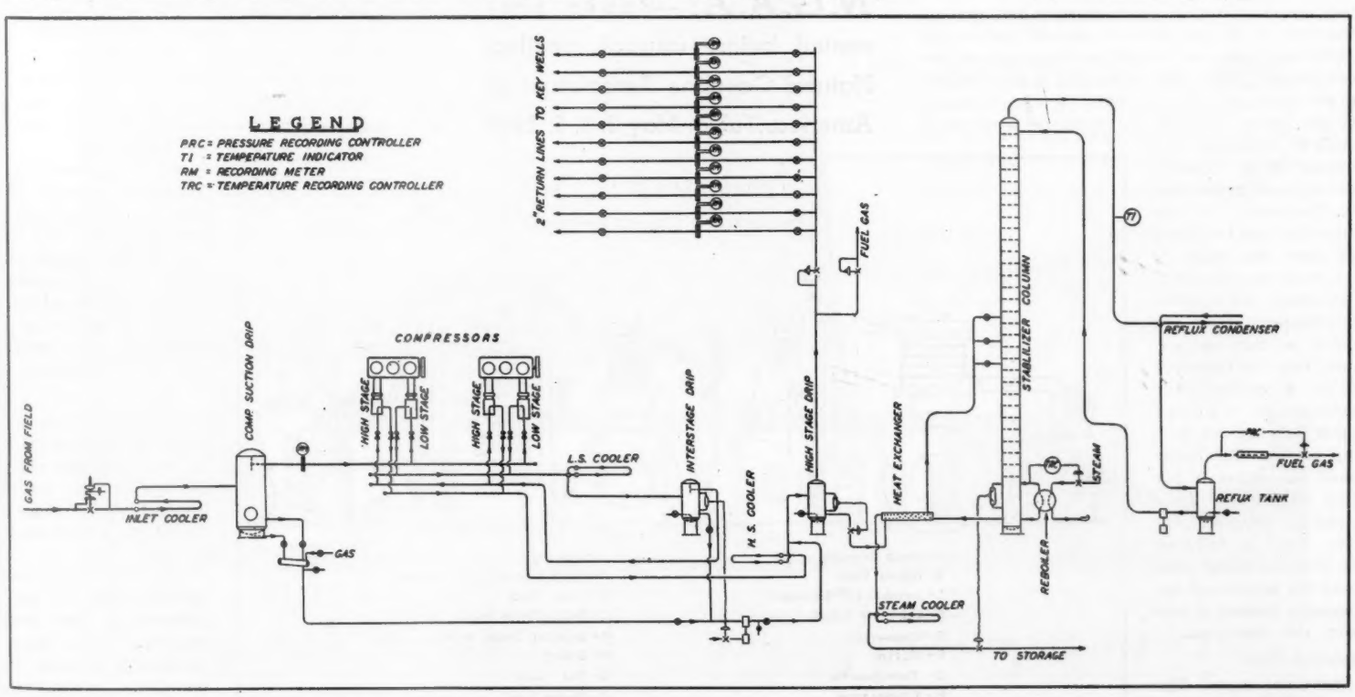


Fig. 1—Simplified flow sheet of Rhodes Pool Gasoline Co.'s new natural gasoline plant in the Rhodes pool, North Texas

Revised Method of Testing Gasoline Content of Gas

The testing apparatus and procedure herein described for the compression and cooling test method were adopted by the gas testing committees after much study and experimentation. Necessarily choice had to be made between various alternate forms of apparatus, and steps in procedure. Should experience in general use throughout the industry develop facts which would make any changes or modifications in apparatus or procedure advisable, such changes will be made later by proper action of the associations.

Equipment or procedure not specifically provided for in this code shall not be considered standard.

Apparatus

(*a*) *Vacuum pump.*— The vacuum pump used for this test shall be absolutely free from leakage in order to prevent air mixing with the gas being tested. The vacuum pump used shall be of the cross-head type with piston rod passing through a stuffing box which when packed will prevent all leakage. The vacuum pump shall be of such a capacity that it will maintain on the meter a pressure of 4 ounces per square inch or any other particular pressure above atmospheric agreed upon by contracting parties, with the compressor running at rated speed under any field vacuum conditions the operators may encounter.

(*b*) *Test meter.*—A positive displacement type test meter having a rated capacity not greater than 180 cu. ft. per hour, at one-half inch water differential shall be installed at the intake of the compressor. The meter index dial shall be scaled to one one-hundredth of a cubic foot. At the intake of the meter a U-tube or well-type manometer shall be connected as a means of determining the operating pressure in the meter. A thermometer shall be placed as near the outlet of the meter as possible to determine the operating temperature in the meter so that the volume may be corrected to 60° F. or any other temperature agreed upon between contracting parties. The meter shall be within 1 per cent of correct by a standard displacement test with a bell-type prover. The meter shall have the bellows or diaphragms treated to prevent the absorption of gasoline vapor.

(*c*) *Compressor.*—The compressor shall be of the cross-head type, with piston rod packed to prevent leakage. Its capacity when operating at a discharge pressure of 250 pounds per square inch gauge shall be not less than 2½ cu. ft. per minute at 4 ounces above atmospheric pressure.

(*d*) *Cooling coil.*—The cooling coil shall be built of one-half inch O.D. copper tubing having a wall thickness not exceeding .045 of an inch and shall be 35 feet long. The coil shall have a uniform drop of not less than one-half inch per foot in order to secure continuous drainage.

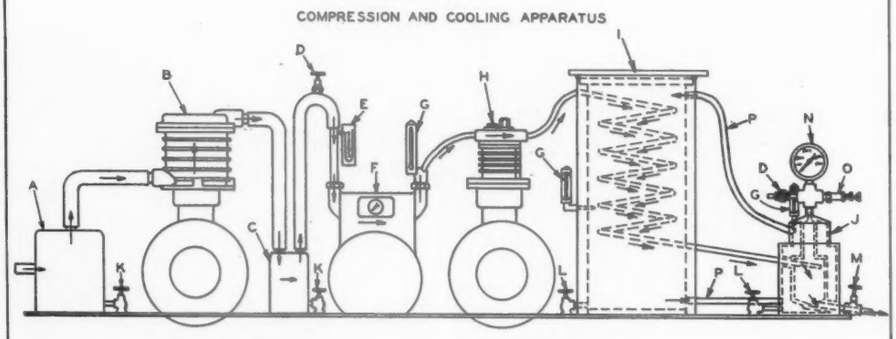
New Compression Test Code

The board of directors of the Natural Gasoline Association of America recently adopted a new code for determining the gasoline content of natural gas by the compression method. The directors of the American Gas Association are expected to give its formal approval soon. The new method is a revision of that portion of Code 101, a joint standard of the N.G.A.A. and the A.G.A. adopted February 1, 1933. The revision was undertaken jointly by the two organizations. Discussions on this cooperative work have been in progress for more than a year. July 1, 1939, is expected to be set as the date on which the new method will become effective as a tentative standard. The new code appears here.

N.G.A.A. **—Paper presented before annual meeting Natural Gasoline Association of America, Tulsa, May 3, 4, 5, 1939**

DIAGRAM NO. 1

COMPRESSION AND COOLING APPARATUS



A–Intake Scrubber
B–Vacuum Pump
C–Intermediate Scrubber
D–Blow-off Valve
E–Manometer
F–Meter
G–Thermometer
H–Compressor
I–Condenser
J–Water Jacketed Accumulator
K–Drain Valve
L–Water Drain Valve
M–Gasoline Drain Valve
N–Guage
O–Pop Valve
P–Water Line

and shall be rigidly fastened within a water chamber of capacity ample to permit the submergence of the coil in a water bath. The drain from the cooling coil into the accumulator shall have approximately the same drop and shall not exceed 12 inches in length. The water bath, to which cracked ice shall be added, shall be held at a temperature not less than 32° F. nor more than 40° F., as determined by an indicating thermometer located in a well or stuffing box placed in the condenser wall midway between the top and bottom of the coil.

(*e*) *Accumulator.*—The accumulator shall be of the water jacketed type and water from the condenser bath shall be circulated through its jacket and return line, the opening for the latter being located at the top of the annular space between the jacket and accumulator. The temperature of the circulated water discharged from the accumulator jacket as determined by a thermometer in a well located in the accumulator top (see Figure 2), shall not exceed 40° F. The accumulator shall hold at least 1 quart (946 cc.) of condensate below the gas inlet opening and shall have only one baffle which shall be perforated and located immediately above the gas inlet opening to prevent the condensate from blowing out through the gas escape connection. The accumulator shall conform with the design shown in the accompanying sketch; shall be so constructed that it may be opened for inspection and shall have a draw-off connection and valve of standard three-eighths inch size and of a quick operating type. The inner wall of the accumulator shall be clean and smooth and its bottom shall be of such shape as to permit complete drainage through the draw-off connection.

(*f*) *Scrubbers.*—Scrubbers shall be placed on both intake and discharge sides of the vacuum pump, to collect any oil, water, or other substances that may be in the line, thus protecting the meter and other machinery.

(*g*) *Notes.*—

(*a*) Connections between the various parts of the equipment shall be as short and direct as practicable and may be tubing, rubber hose or pipe.

(*b*) The entire apparatus shall be constructed of the best materials, with finest workmanship, shall be maintained in good me-

(Continued on Page 68)

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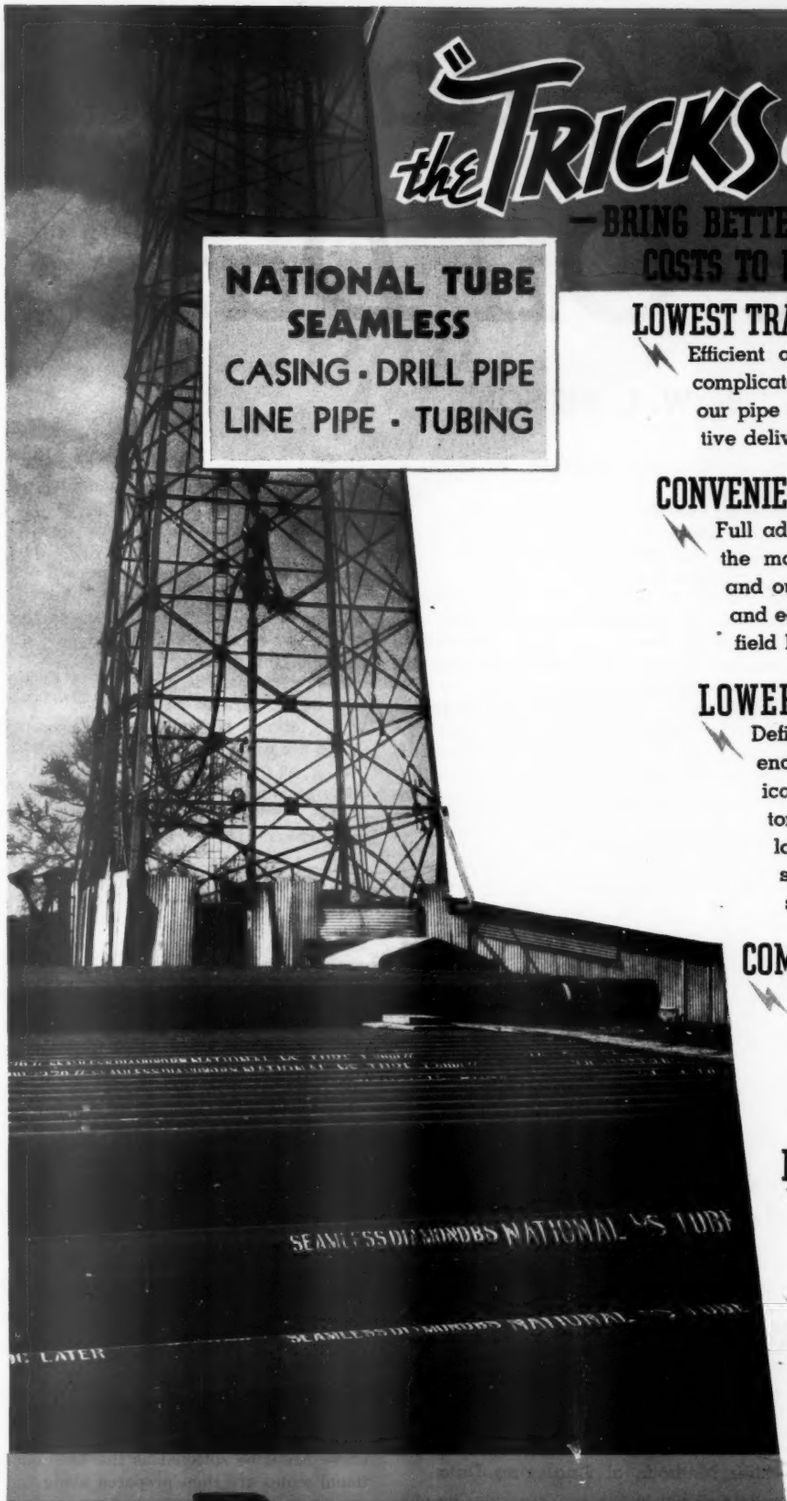

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Ways of Analyzing Crude Oil Data

By W. L. NELSON

In evaluating the yields and properties of the products that may be produced from a crude oil, three different methods of analyzing the data have been developed. These three methods are summarized in Figures 1, 2, and 3 which

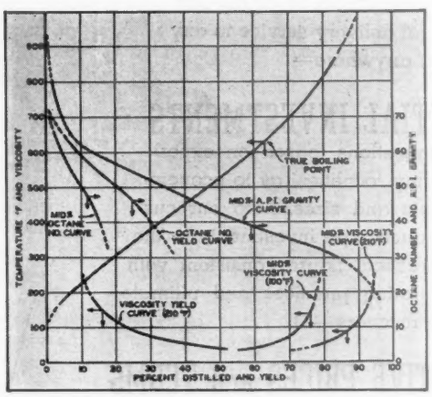

Fig. 1—Mid per cent and yield curves of Rodessa crude

show the data obtained in analyzing Rodessa crude oil, plotted in three ways.

Crude Oil Distillation

It is not the purpose of this paper to discuss methods of distilling crude oil but it is necessary to explain the data that are analyzed later in the paper. The data shown in Figures 1, 2, and 3 were obtained by distilling a three-liter sample of Rodessa crude oil in a true-boiling-point equipment.[1] In this type distillation, the hydrocarbons are effectively separated from one another by fractionation although a perfect separation is not possible by any ordinary methods. The condensate is collected as 100 cc. fractions which are then examined by routine tests for such properties as gravity, viscosity, color, flash-point or any other properties that may be of interest. The properties of these fractions may be plotted as Mid Per Cent Curves such as those shown in Figure 1. Other curves, known as Yield Curves, two of which are also shown in Figure 1, are obtained by blending a series of fractions and determining the properties of the blends.

Mid Per Cent and Yield Curves

One of the most common ways of plotting crude oil data is by means of mid per cent and yield curves such as those shown in Figure 1. In general, the mid per cent curves are obtained by plotting the property under consideration, at the mid percentage point of the fraction although there are slight modifications that must sometimes by applied to sharply curving portions of the curves.[2] Examples of mid per cent curves in Figure 1 are:

1. Octane number
2. A.P.I. gravity
3. Viscosity at 100° F.
4. Viscosity at 210° F.

The two yield curves, i.e., octane number yield curve and viscosity yield curve (210° F.) were obtained by making a series of blends of the fractions and determining the properties of blends. These curves indicate the yield of material of a given property, that can be produced from the crude oil. Thus, the octane number curve tells octane numbers of various gasolines that may be produced. In the same general way, the viscosity yield curve tells the viscosity of the various cylinder stocks that may be produced. As an example, when only 10 per cent of cylinder stock (residual material) is being produced the viscosity of the cylinder stock will be 120 sec. at 210° F., whereas a 30 per cent yield of cylinder stock will have a viscosity of about 70.

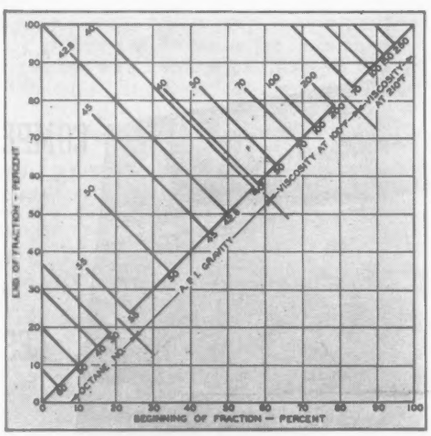

Fig. 2—Isoproperty curves for Rodessa crude

Other Methods of Analyzing Data

The data shown in Figure 1 may also be plotted as indicated in Figure 2. However, the boiling point data cannot be shown to advantage on such a chart. The percentage at the beginning of the fraction is shown along the base line of the chart and the percentage at the end of the fraction is shown vertically. Thus, all of the mid per cent data of Figure 1, would be plotted along the 45-degree line of Figure 2. This line indicates exceedingly small fractions (or even drops of material) which end at the same percentage at which they begin and thus cover no finite range of percentage. Data on different properties may overlap each other but in Figure 2 confusion was avoided by plotting only part of the data that were available for each property. Overlapping data may be avoided by utilizing several charts similar to Figure 2.

The yield data of Figure 1, appear on Figure 2 as circle points along the zero per cent line and along the 100 per cent line. All of the gasolines start at zero per cent and hence each point on the octane number yield curve will appear along the zero per cent line. Likewise, all of the cylinder stocks end at 100 per cent and hence all of the points of the viscosity yield curve will lie along the 100 per cent. The properties of other fractions that do not extend to the extreme ends of the crude oil are shown on the iso-property lines which are usually 45-degree lines across the upper portion of the chart. In many respects this method of plotting data is more satisfactory than the use of the mid per cent and yield curves, but wise judgment is required in interpolating between the iso-property lines.

Still another method of plotting data is shown in Figure 3. In this method of analyzing data, the distillation curve is usually plotted as the fundamental or base curve although any other property

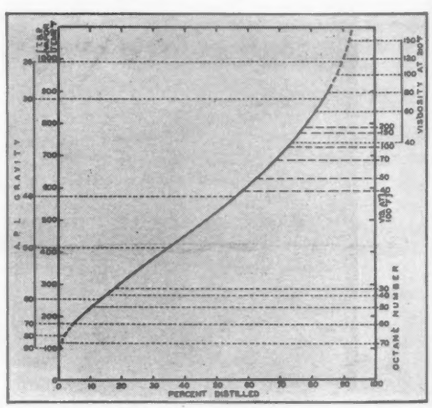

Fig. 3—Property-scale method of analyzing Rodessa crude data

curve could be selected as the base curve. Additional scales are then prepared along the vertical axis by marking the values of the properties along the vertical axis at the corresponding percentages distilled. Thus, the distillation curve is used with each of the vertical scales, and there will be as many scales as there are properties. The vertical scales are seldom uniform or even logarithmic and hence interpolation between known points on the scales is difficult. Yield curve data are seldom plotted by the method indicated in Figure 3, but such data could be plotted by providing additional scales and labeling them as yield scales.

References

1. Nelson, W. L., page 57, "Petroleum Refinery Engineering," McGraw-Hill Book Co., Inc., 1936.
2. Same as Reference No. 1, except pages 85-88.

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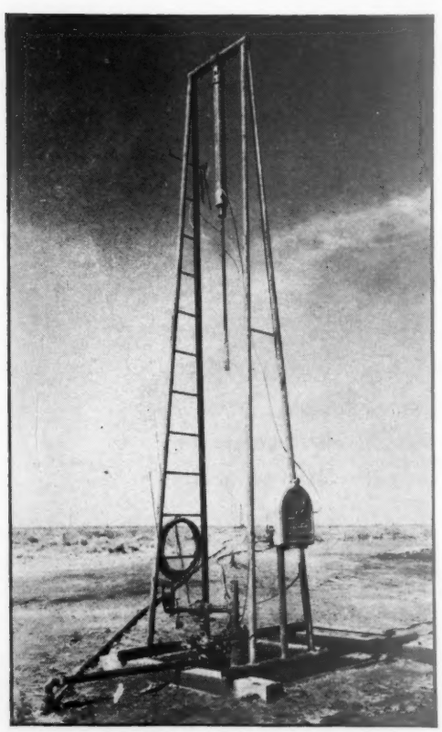
GAS LIFT Now Being More Widely Adopted Throughout Many West

By D. H. Stormont

West Texas operators in the past year have exhibited a growing interest in the use of gas lift as a method of lifting their daily allowables. In both areas of old production and in the flush fields, gas-lift valves and intermitters are being more widely used. Although pumping is still the principal lifting method employed, many operators are turning to gas lift as the large gas reserves in the Permian basin make this type of artificial lift very practical.

This increased attention to gas lift is due mainly to: (1) Decline in reservoir pressures in some of the older fields necessitating that some form of artificial lift be installed. (2) Increase in the amount of water to be lifted in some fields, causing operators to turn to gas lift as an economical means of lifting the daily allowable. (3) Pumping problems arising from floating sand, in some low-pressure fields, which can be eliminated by use of gas lift. (4) As an economical method of lifting the low daily allowables imposed by proration schedules (5) As a means of prolonging the flowing life of the well. Also improvements in equipment and methods, accomplished by manufacturers of gas-lift valves and intermitters, has made West Texas operators more aware of the possibilities offered by gas lift.



Surface control intermitters installed on stub derricks on a well in the South Ward field

In practically all West Texas fields, gas lifting is accomplished through means of high-pressure gas wells or residue gas from nearby natural gasoline plants, of which there are some 12 in the area. The large gas reserves in West Texas makes gas lift practical in many fields; the general practice being to take the high-pressure gas from the well and distribute it throughout the field without its being compressed. In fields where such high-pressure gas is available it is possible to lift the oil very cheaply as there is no necessity for compression equipment. In the Means field of Andrews County some 25 wells are being produced this way, and an additional 20 wells are equipped with flow valves using casing pressure to flow the wells but not using any extraneous gas.

In October of 1938 the Railroad Commission completed a survey of fields in West Texas showing there were some 141 wells on gas lift and an additional 173 equipped with flow valves but operating on the wells' own gas. Another survey (see Table 1) made earlier this year showed that the number of wells then on gas lift totaled 265 and an additional 225 were equipped with flow valves. Installations made subsequent to the last survey, no doubt have increased these totals still higher.

The wide range of producing conditions encountered in West Texas prohibits the use of generalities in a discussion of gas lift as applied in that area. Type of wells encountered, however, may be divided in three distinct classifications: (*a*) Wells with low fluid levels and bottom-hole pressures. (*b*) Those having sufficiently high fluid levels and bottom-hole pressures for natural flow but due to the high percentage of water cut, require artificial lift. (*c*) Wells in the more recently discovered fields, or in older fields, having high fluid levels and bottom-hole pressures. Another classification that might be added is that class of wells capable of producing their own gas, along with the oil, thus requiring no injection of extraneous gas.

TABLE 1—WEST TEXAS FIELDS EMPLOYING WIDEST USE OF GAS LIFT

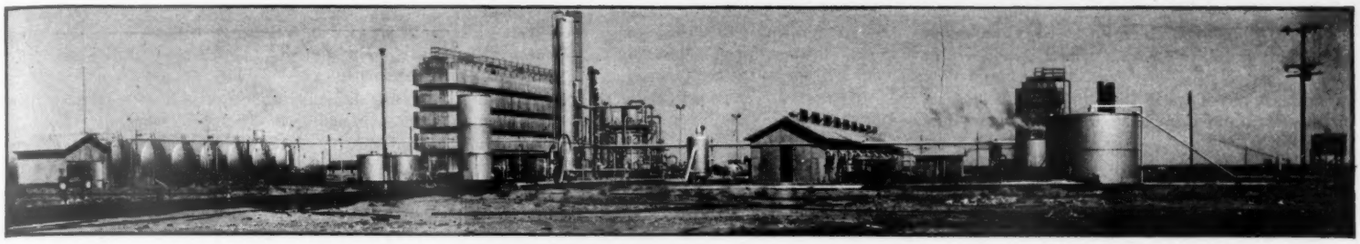
Field and county—	Wells on gas lift	Wells with flow valves but not using extraneous gas	Pumping wells	Flowing wells
Churchfields, Crane	7	2	272	55
Estes, Ward	3	10	4	277
Foster, Ector	4	7	96	88
Goldsmith, Ector	20	24	10	536
Hendricks, Winkler	78	5	123	59
Keystone, Winkler	2	13	10	96
Kermit, Winkler	11	5	58	810
Means, Andrews	25	20	1	29
Penwell, Ector	11	3	47	106
Sealy, Winkler	2	4	0	17
Shipley, Ward	5	1	77	15
N. Ward, Ward	26	66	58	125
S. Ward, Ward	67	49	174	385

Note: The above tabulation is based on a similar report prepared by the Railroad Commission in October 1938.

In contrast to gas-lift methods and equipment used in the past in other fields, advancements made by equipment manufacturers and new methods make possible the use of gas in artificially lifting any of the above type wells. In the past before use of flow valves became common, it was impossible to produce wells having low productivity factors and bottom-hole pressures by use of gas lift. Now, however, equipment manufacturers are offering valves and intermitters that have, in some instances, economically and efficiently produced this type of well to depletion. Thus, the problem of gas lifting in West Texas has been resolved to one of adopting the equipment at hand to conditions existing in West Texas fields; that is, through a study of individual well characteristics, install the proper number of flow valves with the right spacing and employ the correct operating pressure that will efficiently produce the daily allowable at the lowest cost.

Fig. 1—Type gas-lift installation used to gas-lift wells with low fluid levels using surface control equipment

Installations in the South Ward field of Ward County offer good examples of how gas lift is being used to produce wells of comparatively low fluid levels and bottom-hole pressures, and also to combat fine, floating sand conditions. Bottom-hole pressures in this field had declined from an initial of 1,300 pounds per square inch to around 150 to 900 pounds. A pressure gradient exists across the field from east to west, and in the area where gas lift is being installed pressures vary from 148 to 425 pounds, averaging about 200 pounds. Most of the wells, which average 2,550-90 feet in depth, had been given heavy shots when completed so that as fluid levels and pressures



A 20,000,000-cu. ft. natural gasoline plant which supplies most of the high-pressure gas for gas-lift wells in the South Ward field

Texas Fields

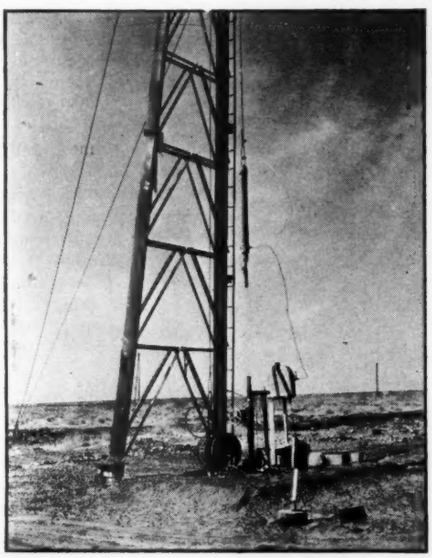
declined, troubles arising from floating sand increased. Some high gas-oil ratio wells continued to produce with bottom-hole pressures as low as 150 pounds, but most of them ceased flowing.

One company during recent months has installed some 31 Nixon surface control gas-lift units on two of its leases in this field. Wells on these leases had been producing for many years, and due to reservoir pressures declining to a point where the wells would no longer flow their allowable it was necessary that some means of artificial lift be installed. In the spring of last year the company began working over some of its wells in an attempt to increase production and install lifting equipment. After trying two other methods of reworking the wells it was found that favorable results could be obtained by merely cleaning out the wells leaving the liners in place.

A few wells were cleaned out using the following procedure: Liners were pulled and the shot hole bridged back to just above the Penn-Bennett pay, where a cement plug was set. The hole was then cleaned out and a blank liner set on the cement plug, after which the plug was drilled and the hole cleaned to bottom. By this procedure the Grand Falls pay, believed to be the worst source of the finely divided sand, was placed behind the blank liner and only the face of the Penn-Bennett pay left exposed

Several pumping units were installed on wells cleaned out in this manner and it was found that wear on valve seats, caused by the fine, floating sand, was not too excessive. Pumping units could, therefore, be used if this work-over procedure was used on all the wells. Due to the length of time required for this method and the amount of production lost while the wells were down, however, it was discarded due to its expensiveness. With the use of pumping equipment thereby prohibited, wells were then cleaned out with the view of placing them on gas lift.

Under this cleanout method the liners were left in place and the hole cleaned to bottom. In a few wells a four-hole perforator was run and new hole punched in the liner about every 4 feet in an attempt to increase the well productivity. Time required for this method was about twice that of when the perforator was not used, and since there was little apparent difference in the results of the two methods, use of the perforator was abandoned. Thus the standard practice now followed is to merely clean out the wells with



Surface control gas-lift unit using a mast to suspend the wire line equipment in a South Ward well

cable tools, which requires from five to seven days. In addition to the 31 units already placed in operation on these two leases, the company plans to install additional units before summer of this year.

High-pressure gas for producing the gas-lift wells is supplied by a natural gasoline plant north of Royalty. This plant was originally designed as a low-pressure, absorption type plant, capable of processing over 20,000,000 cu. ft. of gas daily. Through installation of high-pressure cylinders on its Ingersoll-Rand compressors, however, 3,000,000 cu. ft. of 400-pound residue gas was made available for both their gas-lift units and those of other operators. When the plant first went to higher operating pressures the high-pressure residue was cooled with ammonia solution to remove any condensate or moisture, but this is now being done in the cooling tower. The high-pressure gas is distributed to wells by 6-, 4-, 3-, and 2-inch lines.

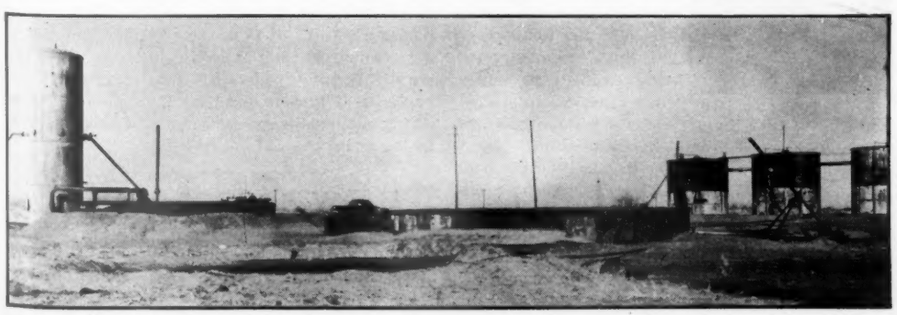
On installing the surface-control intermitters it was necessary that hook-wall tubing packers be used to keep the gas pressure off the sand face. If these were not used, due to the comparatively low bottom-hole pressures of the wells, pressure of the input gas would hinder flow of oil into the hole All packers are set as low as possible to the bottom of the 7-inch casing, averaging about 2,500 feet in depth. In this closed type system, there is no perforation in the tubing above the packer and since the tubing is packed off from the casing the annular space between the two provides a reservoir for the input gas. While input gas pressures in the neighborhood of 275 pounds are sufficient to operate the units, due to the higher pressure gas available operating pressures of the intermitters are slightly less than 400 pounds.

A special type of accumulator chamber was especially designed for use in this project. Its principal difference from the usual Nixon intermitting system for producing low fluid level wells (Figure 1) is that the accumulation chamber and flow valves are placed below the packer. By this arrangement fluid is not required to build up to as high a level between flows as in the regular type, which of course, makes for less expenditure of reservoir energy and higher daily production.

In addition to the standing valve and flow valve, one additional unloading valve is placed in the tubing string, about 800 feet above the flow valve. This is placed in the string so that if the well should become fluid bound, all oil above it can be unloaded. Or in some relatively high fluid level wells, it is used to unload all fluid above that depth when the unit is being placed in operation.

After the 1¼-inch tubing string containing the unloading valve, flow valve, accumulation chamber, standing valve and a perforated bull plug at the lower end has been run and the packer set, a 60-foot weight bar is run on a wire line Pressure is applied to the annular space between the tubing and casing and if the fluid level is above the unloading valve, oil in the annular space above the unloading valve is forced out through the tubing by means of the weight bar opening the valve. All fluid in the annular space above the flow valve is unloaded in the same manner, the gas pressure closing the unloading valve as soon as the weight bar is removed, so that a large reservoir is provided for the operating gas.

After well has been cleared the weight bar is suspended immediately below the flow valve, and the wire line securely clamped to a weight cylinder piston rod on the surface. Since all derricks had been removed from over the wells stub derricks, of the type shown in the accompanying photographs, were built for suspending the cylin-



Lease battery in the Hendrick field of Winkler County, where fluid volumes as high as 21,000 bbls. daily are being gas lifted through the casing

der that operates the weight bar. Knowing the volume of fluid that builds up in the chamber at regular intervals, the timing wheel that operates the intermitter is notched so that maximum flow at the least gas-oil ratio is attained. Cycles of 10, 20, and 30 minutes are used, depending on which will most efficiently flow maximum production.

Operation of the intermitter is as follows: Pressure taken from the gas supply line is reduced to low pressures by a regulator valve. When a notch in the timing wheel of the clock controlling the cycle of flow passes over a valve lever arm, the arm raises, opening the clock valve and allows pressure to open a motor valve. With the motor valve open, pressure flows on through and up to the weight cylinder where it operates the cylinder piston. This raises the weight bar into the flow valve, allowing operating gas to enter the tubing below the accumulation chamber and raising the fluid to the surface When the oil reaches the surface, some is bypassed through a release valve to relieve the pressure beneath the piston in the weight cylinder so that the weight bar is lowered out of the flow valve. This completes a cycle, which is repeated when another time interval is elapsed.

Input gas-oil ratios vary from 1,000 to 2,500 cu. ft. per barrel of oil, depending on the bottom-hole pressure, and average something less than 2,000. Due to the large reservoir provided in the annular space, there is practically no fluctuation in the operating pressure.

On a nearby lease, the same company is installing several gas-lift units of the differential pressure type. Other companies also have installed several of this type in some of its wells in the low-pressure area. High-pressure gas for these installations, in most instances, is likewise being furnished by the natural gasoline plant. Working pressures of 180 to 220 pounds are being used

Intermitters

In these differential pressure operated intermitters, a closed system of the Merla Tool Co. type shown in Figure 2 is used. The 2-inch tubing string, made up with a perforated bull plug on bottom, hook-wall type packer and the outside part of a gas inlet nipple is run and the packer set. In some instances, in wells with relatively high fluid levels, one flow valve is included in the string. After the packer is set, several hundred feet of 1-inch pipe connected to an intermitter on bottom and the interior of the gas inlet seating tool on top, is run inside the tubing with a wire line. The gas inlet seating tool seats and gives a gas-tight seal in the inner part of the nipple assembly, which is installed as a part of the tubing above the packer. The combination gas inlet and seating device is constructed around a Type G Otis side door choke, utilizing a mechanical feature which prevents the tool from being blown from its seating. Thus whenever it is desired to pull the intermitter for any reason, it is not necessary for tubing string to be removed since the 1-inch string assembly can be pulled by means of the wire line, thereby cutting time and cost of repair work.

In this installation the annular space also operates as a reservoir for input gas to provide constant pressure for operating the intermitter. Gas is admitted down the casing, passes through ports in the inlet nipple assembly where it goes down through the 1-inch conductor pipe to the intermitter Then when the fluid level has built up to a point where the pressure exerted is higher than that of the intermitter setting, the intermitter opens, the standing valve closes, allowing the gas to expand into the oil. After the head has been flowed and the differential between the 1-inch pipe and tubing pressures increases to a fixed point, the intermitter closes. The drop in pressure in the tubing then allows the standing valve to open, thereby permitting flow of oil into the tubing. In this way gas pressure is never exerted on the sand face, permitting flow of oil into the hole as great as the well's productivity will allow.

In obtaining efficient lifting results and maximum daily production in these low fluid-level wells, build-up periods are important factors that must be considered. In wells with low productivity factors, the rate of feed-in and build-up of the fluid column slows up as the fluid approaches the static level and it may take the well several hours to reach static equilibrium. If the intermitting valve is set so that it opens at pressure too near the static level, the well will head only at long-time intervals and daily production may suffer. Using a lower working level and a spring setting in the intermitter that allows the valve to kick off at a lower pressure, at the same time keeping the closing pressure from going below the minimum, results in more heads of less oil and usually more daily production.

Fig. 2—Type closed system used for gas lifting low fluid level wells using a wire line inlet nipple assembly with intermitter on bottom

In most West Texas wells requiring artificial lift due to water cut, the static fluid level is relatively high and the working fluid level somewhat lower depending on the rate of production required and the well's productivity factor. In most of these wells no packer or standing valve is used and some four to eight flow valves are installed; the number depending on rate of production expected, per cent of water cut, bottom-hole pressure of the well, casing pressure to be used and the productivity factor of the well. The latter is usually most important as it determines working fluid level under operating conditions.

The Hendrick field of Winkler County offers probably the most prominent example of how gas lift is being used to lift economically fluid volumes as high as 21,000 bbls. daily, with an oil-fluid ratio of less than 1 to 100. Six gas wells were drilled on the eastern side of the field for supplying the required volume of high-pressure gas, and gas-oil ratios are kept as low as possible to conserve the supply. Input gas-fluid ratios on an average approximate 40 cu. ft. per barrel for the field. Flow is either through the casing or tubing, depending on which is the more efficient method, using from five to eight flow valves per well as the working fluid level requires. Almost one-fourth of the field's 390 wells are equipped for gas lift.

In producing wells making the largest fluid volumes, casing flow is most generally used. In these installations an average of seven flow valves are placed in the tubing string, gas being introduced down the tubing and flow is up through the casing. These wells nearly all have high fluid levels, thus spacing of valves and operating pressures are given a careful study in order to attain optimum operating conditions. A high degree of aeration is obtained in the fluid column by installing the flow valves at the right depths and injecting the proper volume of gas at the right pressure through each valve. Kick-off pressures vary from 250 to 400 pounds, but once the well is cleared the working pressure is much lower.

Lifting costs per barrel of fluid produced vary from .5 cent to .016 cent on some of the most efficiently operated wells, figuring the gas to cost 2 cents per 1,000 cu. ft. Thus wells producing less than 1 per cent oil per barrel of fluid are gas-lifted at a cost in the neighborhood of 2 to 7 cents per barrel of oil. Lifting costs on some wells operated less efficiently, however, run considerably higher per barrel of oil.

High Fluid Level Wells

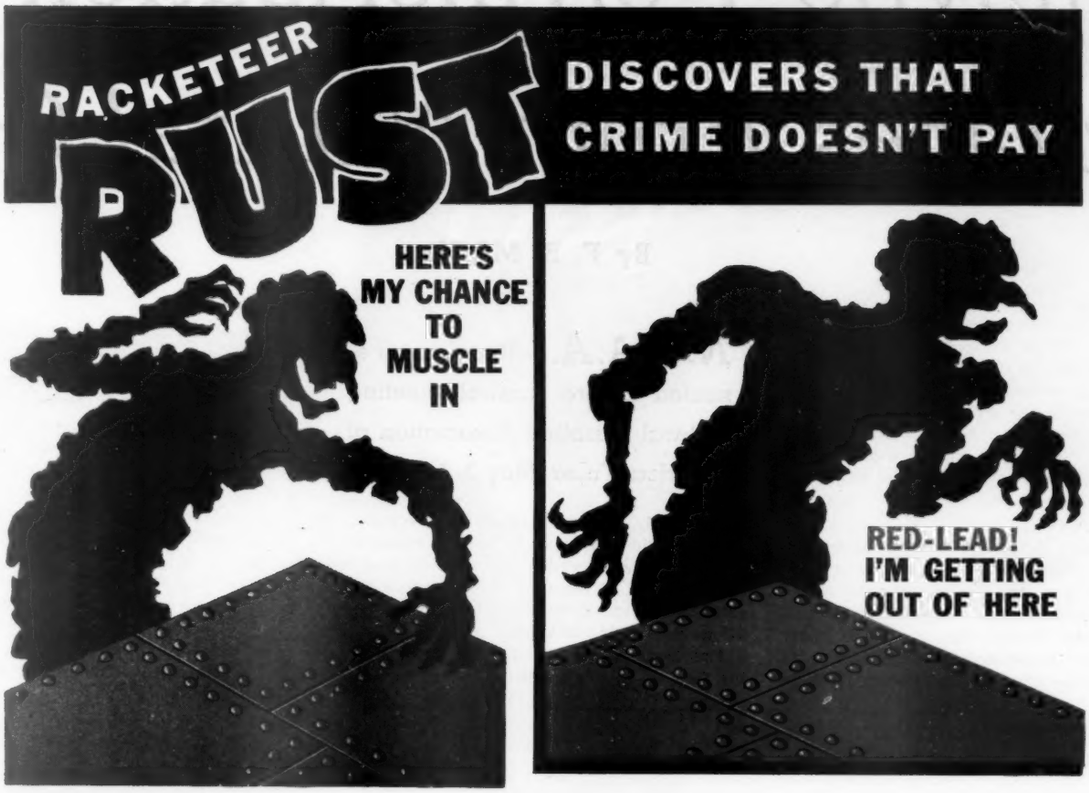
In high fluid level wells an average of five to seven flow valves are used and usually no packer or standing valve is employed due to higher formation pressures. New types of flow valves which operate on combinations of pressure differentials between the tubing and casing, and on velocities of gas through the valve or fluid up the tubing, offer varieties to fit most any type well encountered in West Texas fields.

Proper installation of valves is, of course, important if the well is to be produced most efficiently and at lowest input-gas oil ratios. General practice followed in West Texas regarding proper installation, is to first determine the approximate static fluid level. After this is done, from a knowledge of the well's characteristics, the valve spacing is calculated. One valve is usually installed well above the estimated static fluid level to make certain the well will not become fluid bound due to fluctuating fluid levels. Calculations are then made to determine the optimum working gas pressure and the working fluid level. Some three or four valves are placed at proper intervals in the section determined as the working fluid level and an additional two or three valves at wider spacing are placed below this area. Their correct setting in the flow string and use of the right valve springs and pins greatly determines the efficiency of operation.

In wells that have just ceased making their natural flow, gas lifting is being carried on at its highest efficiency. At this time in the well's life, reservoir pressures in most fields are still relatively high and the flowing pressure with low allowables remains at a high point. Also since there is almost sufficient formation gas accompanying the oil to flow the well, the amount of extraneous gas that must be introduced is comparatively small. Thus the remaining formation gas is used to help lift the oil, whereas if other lifting methods were used much of this potential lifting energy would not be utilized.

World's Oil Reserve

According to information transmitted from the League of Nations Statistical Bureau, the known reserves of mineral oil deposits at the end of 1938 were 31,000,000,000 bbls. The consumption in 1938 is recorded at 2,000,000,000 bbls., hence, it is pointed out, that the known reserves should be sufficient for the next 15 years at least.



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Catalytic Polymerization of Butanes From Natural Gas

By F. B. MACK
Shamrock Oil & Gas Corp.

N.G.A.A.—Report presented before annual meeting Natural Gasoline Association of America, Tulsa, May 3, 4, 5, 1939

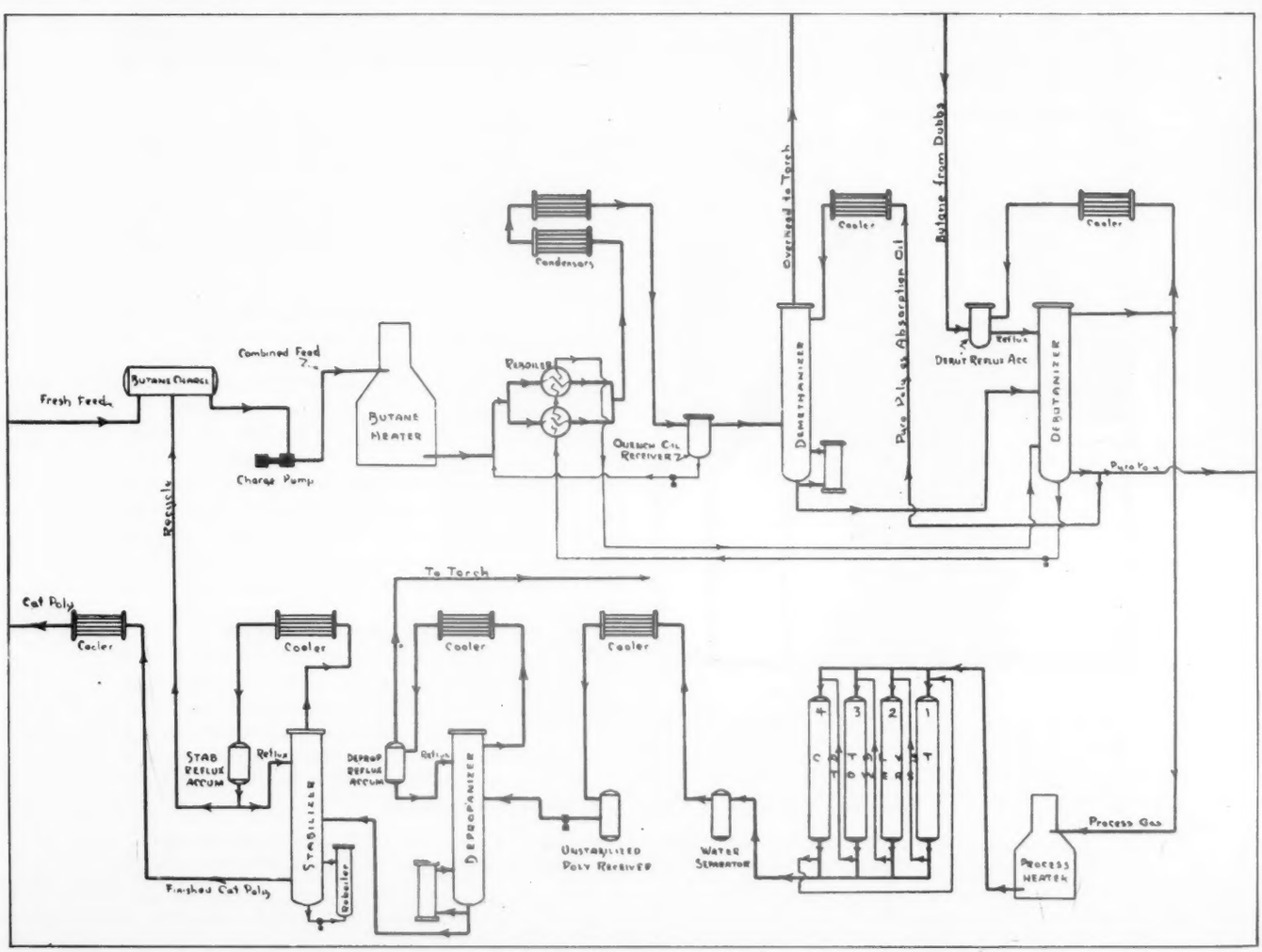
During the past several years a great deal has been written about processes for converting light natural gasoline fractions into motor fuel. Most of the presentations in the past, however, have dealt in a technical manner with the method of conversion, and have generalized with respect to the effect of economic factors on the results to be expected from actual operation over a period of time.

The Shamrock Oil & Gas Corp. has had 26 months' experience in the operation of a plant which employs a method for the cracking of and the catalytic polymerization of natural butanes producing a high octane blending value motor fuel. This plant is operated in conjunction with a natural gasoline plant and a refinery, both of which supply raw material to be processed. It is intended in this paper to present information obtained in the operation of this plant and also to show some of the uses for the products obtained as well as information which will give indications as to costs and values.

The octane value of butane makes it a desirable fraction to use in blending motor fuel, except that the use of butane as such for this purpose is limited to relatively small percentages because of its high vapor pressure. The polymerization process adopted by Shamrock offers a way to utilize butane where formerly no opportunity existed. The advantages thus obtained must be weighed against the cost to justify the investment and the operation.

At the outset it may be stated that there can be no question as to the desirability of this product for use as a blend to improve the octane value of motor fuel. The cost of production, however, has been such that with low motor fuel prices the refinery demand has not developed in accordance with normal expectations.

The natural gasoline manufacturer who has



Shamrock Oil & Gas Co.'s McKee, Tex., plant butane polymerization process flow chart

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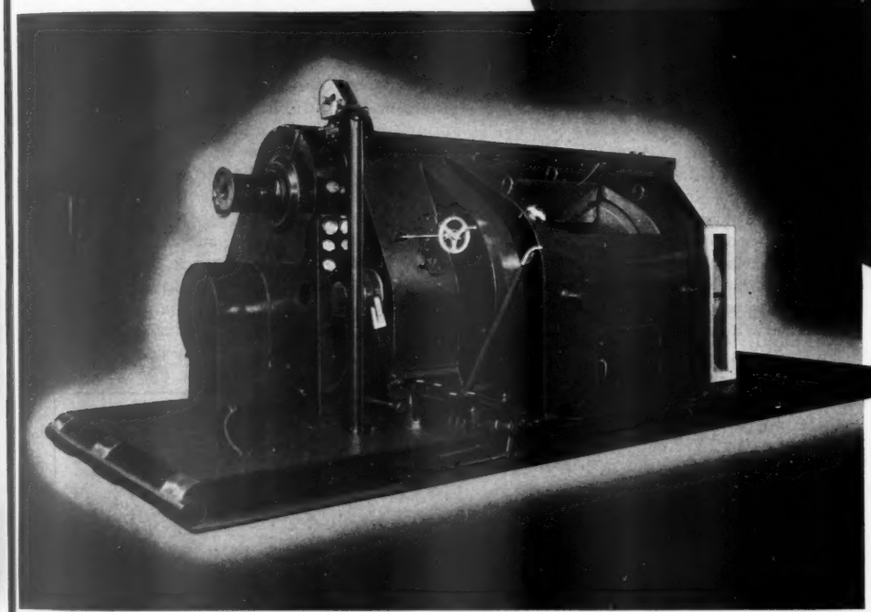

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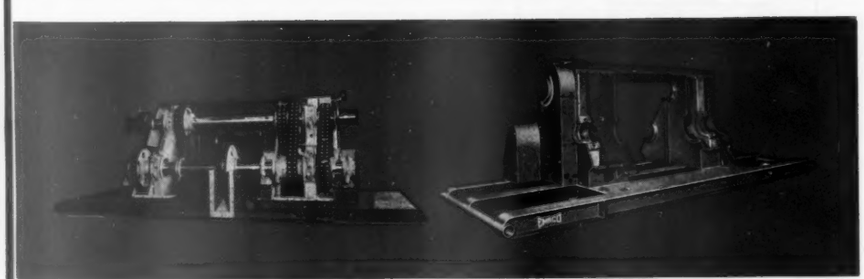

Note double-pitch chain drives which have increased service life. All drives are pressure-spray lubricated and enclosed in oil-tight chain guards.

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quantities of excess butane sufficient for the consideration of this method of utilization should be able to reach a conclusion as to its advisability after giving the proper weight to the factors involved and the probable effect of those factors in the individual case. Generally speaking, the factors to be considered are as follows:

1. Quantities of butane available over a period of time.

2. Added investment to regular natural gasoline plant together with added costs of operation and maintenance.

3. Investment in polymerization plant and the cost of its operation and maintenance.

4. Probable market for products obtained.

When those questions are satisfactorily answered as they apply in the individual case, there should be no difficulty in reaching a conclusion. It is the purpose here to present neither an overrating of the advantages nor to discourage those who are reluctant to take advantage of the opportunities which exist.

The Shamrock Oil & Gas Corp. found that it had available daily 600 bbls. of butane at its McKee natural gasoline plant in excess of that normally contained in 26-pound R.V.P. natural gasoline with 62 per cent recovery of normal butane and 44 per cent recovery of isobutane. This extraction is obtained with an absorber pressure of 240 pounds per square inch and an oil circulation rate of 8 gallons per 1,000 cu. ft. and with the use of a compressor plant to recompress the noncondensible vapors for additional butane recovery. It was found that this butane supply could be increased to approximately 1,000 bbls. per day if the vapor pressure of the natural gasoline manufactured were reduced from 26 pounds to 18 pounds R.V.P.

In order to provide for the recovery of butane in the quantities shown it was necessary for this company first to increase its gasoline plant equipment to provide for additional oil circulation, increased from a normal circulation of 4 gallons to 8 gallons per 1,000 cu. ft. of gas handled. This change necessitated increased heat exchanger and preheater capacity as well as additions to the stills in order to strip the increased quantity of oil circulated. A primary still was installed between the heat exchangers and the preheaters to be operated at 65 pounds per square inch pressure and at an oil temperature of 250° F. The purpose of the increased oil circulation was to obtain a greater percentage of the lighter fractions which are normally not required in the manufacture of natural gasoline.

Compressor Plant

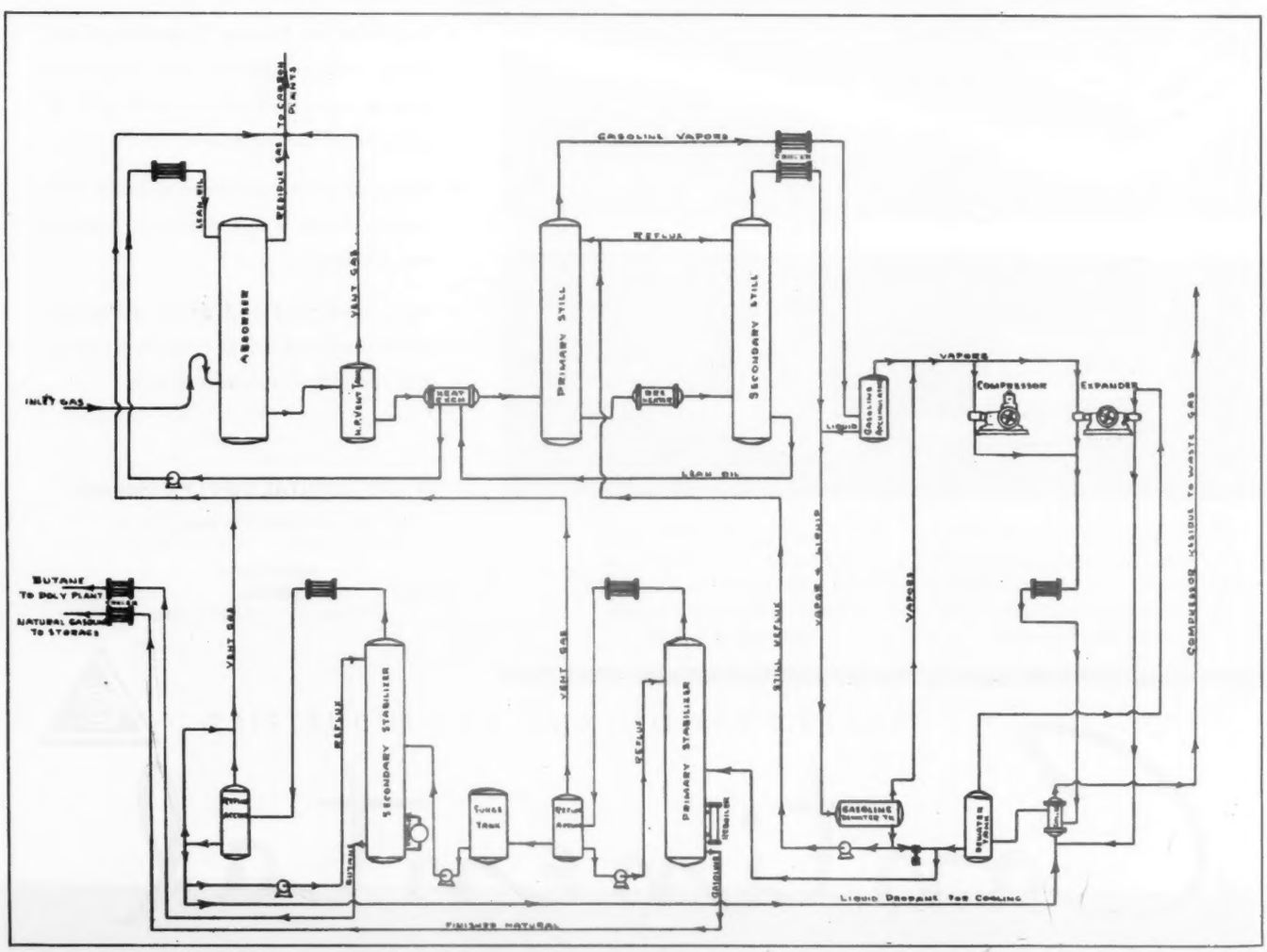
All of these lighter fractions could not be condensed under the operating pressures and temperatures of the stills, and therefore, in order to effect the recovery of the butane desired, it was necessary to install a compressor plant to compress these uncondensed vapors to a pressure sufficient to recover the butane fractions. As an aid to recovering the butanes from the compressed vapors, the vapors were cooled to a temperature below that obtained with cooling water. This was accomplished by using the exhaust from an expander engine and expanding propane from the stabilizer to cool the compressed vapors in a chiller. This arrangement permitted a recovery of 92 per cent of the butanes after extraction from the gas treated in the absorbers. The flow diagram of the natural gasoline plant which is included with this paper shows the conventional natural gasoline plant with these added features.

The cost of the raw feed to the polymerization plant starts with the cost of the butane. To that must be added the cost, maintenance and operation of the additional equipment in the gasoline plant. It is not difficult in the individual case to arrive at this cost and apply the same on a unit basis to the cost of the finished product of the polymerization plant.

The cost of the polymerization plant when designed can be obtained on a quotation basis. The problem then becomes one of determining the cost of operation and maintenance of the polymerization plant and the recovery efficiencies which may be expected.

In addition to the cost of the polymerization plant and its operation and maintenance, the cost must include an allowance of one-half of 1 cent per gallon for royalty and from one-half to three-fourths of 1 cent per gallon for the cost of catalyst.

The maintenance costs are subject to some considerable variation. The Shamrock has increased the length of runs between shutdowns from an average of about 15 days to an average above 40 days. The cost of labor and material for shutdowns at first was $1,600, but this cost has since



Gasoline plant at McKee, Tex., of Shamrock Oil & Gas Co.

Smith Meter Model 2L-150 for Pipe Line and Refinery Service

● You asked for the *speed* and *accuracy* that only a rotary meter can provide, plus stamina that can stand up under the high-pressure shocks of pipe line and refinery service.

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To protect the mechanism in the event that foreign matter gets into the measuring chamber and jams, a special differential pressure valve automatically opens before damage can be done. Constant service with a minimum of time loss is assured by the fact that the metering mechanism can be removed for checking and another mechanism put in its place *without removing* the *counter* or *disturbing the pipe line connection in any way.*

Furnished with Automatic Temperature Compensator (upon request) which enables this meter to measure all liquids on a 60° basis regardless of their actual temperature.

This SMITH METER MODEL 2L-150

is now in service on one of America's major pipe lines. It works about 70% of each 24 hours in hard metering service, alternately measuring four different liquids—Gasoline, Kerosene, Fuel Oil No. 2, and Fuel Oil No. 1.

SMITH METERS

SMITH METER COMPANY

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FACTORIES AT LOS ANGELES AND MILWAUKEE

Sales Offices at *New York, Pittsburgh, Chicago, Cleveland, Tulsa, Dallas, Houston, Los Angeles, San Francisco*—Local Stocks at Convenient Points

TABLE 2

	Before rerun		After rerun and treated	
	Catalytic polymer	Pyrolytic polymer	Catalytic polymer	Pyrolytic polymer
Gravity, °A.P.I.	64	43.2	66.1	57.6
R.V.P.	6.1	5.8	7.4	5.5
Doctor	Positive	.....	Negative	Negative
Corrosion	Negative	.....	Negative	Negative
Color	Blue	.....	+26	+15
A.S.T.M. gum	12.5 mgs.	.....	Nil	.5 mgs.
Oxygen bomb ind.	45 min.	15 min.	90 min.	60 min.
Sulfur, per cent	.018	.02	.018	.02
Octane No. (L-3)	85.5	76	85.7	80.6
	(°F.)	(°F.)	(°F.)	(°F.)
I.B.P.	100	122	100	116
10 per cent	150	168	142	158
20 per cent	176	190	166	180
30 per cent	191	206	188	195
40 per cent	204	224	204	210
50 per cent	220	247	220	226
60 per cent	234	284	236	244
70 per cent	260	345	256	270
80 per cent	290	437	288	297
90 per cent	338	492	326	324
E.P.	450	533	394	361
Recovery, per cent	97	93	98	97
Residue, per cent	1	1	1	1
Loss, per cent	2	1	1	2

been reduced to an average of $800 per shutdown. The plant can be operated with two to three men per tower.

To the costs considered thus far must be added the cost of rerunning, handling and treating. It was first thought that a rerun unit would not be required, but since difficulties were encountered with the endpoint of the finished blends of motor fuel it was found necessary to provide for this procedure. The finished product is only slightly sour and a light treatment is necessary.

In considering a plant such as Shamrock has in operation, it should be kept in mind that the butane should contain a minimum amount of propane. The presence of propane in the feed has the effect of decreasing the capacity of the plant without compensation in yields. The utilization of propane for the production of polymers by the thermal cracking and polymerization method is receiving some attention, however, at this time and may ultimately offer possibilities. Since unit costs are vital to the profitable operation of a plant of this nature it follows that the rate of the charge must be maintained as high as possible.

Description of Process

The butane delivered to the polymerization plant is charged to a cracking furnace. The temperature and pressure of the furnace are controlled to permit the efficient production of olefins or unsaturates. The uncracked butanes are separated later in the process and returned to the charge tank to be recycled.

An analysis of furnace exit gases is given in Table 1.

TABLE 1

	Mol. %
Hydrogen	15.00
Methane	4.48
Ethylene	.05
Ethane	5.53
Propylene	11.36
Propane	15.17
Isobutylene	1.18
Butylene	.82
Butanes	46.00
Isopentane (plus)	.41
Total	100.00

The gases from the furnace pass through G-fin heat exchangers which are used as reboilers for the debutanizer column. After the heat exchangers, the gases are condensed in atmospheric condensers and pass on through a quench oil receiver into the demethanizer. A portion of the liquid is removed from the quench oil receiver and reentered into the stream at the inlet of the G-fins as a control of the temperature of the liquid in the bottom of the debutanizer column.

The demethanizer column operates at 310 pounds pressure, with 150° F. bottom temperature and 90° F. top temperature. It is refluxed with an absorption oil for the purpose of making a separation between the ethane and lighter fractions and the propylene and heavier fractions. The bottoms of the demethanizer are fed into a debutanizer which operates at 275 pounds pressure, with 480° F. bottom and 200° F. top temperature. The pyrolytic polymer production, which is formed in the butane cracking furnace, is removed from the bottom of the debutanizer. A portion of this product is used as the absorption oil in the demethanizer. The debutanizer is refluxed with the overhead product removed from the debutanizer in the refinery. The overhead from the debutanizer, consisting of butanes, butylene and propylene, passes through a process heater where it is heated to about 380° F. to 410° F. and then passes through the catalyst towers. The olefin content of the gas entering the catalyst towers averages about 24 per cent. The catalyst towers are operated in series with three towers in use while a fourth tower is being reactivated. By rotation of the towers before reactivation the conversion efficiency is kept at a maximum. In this manner an average of 86 per cent of the olefins entering the towers are polymerized. The vapors leaving the catalyst towers are condensed and then charged to the depropanizer. The depropanizer operates at about 310 pounds pressure, with 220° F. bottom and about 90° F. to 110° F. top temperature. There is some ethane in the feed to the depropanizer which was not removed in the demethanizer, so it is necessary to operate the depropanizer column at a high pressure to condense a sufficient amount of overhead product for reflux. The bottoms, which are essentially propane free, are fed directly into the stabilizer. The stabilizer operates at about 105 pounds pressure, with 360° F. bottom and 140° F. top temperature. The bottoms from the stabilizer are in the form of catalytic polymer, the vapor pressure of which is controlled between 6 pounds R.V.P. and 10 pounds R.V.P. as desired for blending. The overhead product of the stabilizer which is butane is condensed and returned to the charge tank to be recycled.

This plant was designed to operate with a combined feed of 2,100 bbls. and a fresh feed of 1,100 bbls., which would give a ratio of combined feed to fresh feed of 1.91 to 1. It has been found in actual operation that a ratio of about 2.5 to 1 of combined feed to fresh feed results in a higher conversion of butane to polymer. Thus, by increasing the combined feed to 2,500 bbls. it was found that 1,000 bbls. of butane could be handled in this plant more efficiently, and that a conversion of butane to 10-pound R.V.P. polymer on a 40 per cent yield basis could be obtained.

A flow diagram of the polymerization plant is included with this paper for use in connection with the description given.

In this process of cracking and catalytic polymerization of butane two products are obtained. The first product made is pyrolytic polymer, which is formed in the butane cracking furnace and removed from the bottom of the debutanizer. The second product obtained is catalytic polymer, which is made by polymerizing the olefins in the catalyst towers. The production of pyrolytic polymer is about 8 to 10 per cent of the total polymer production. Specifications of these two are in Table 2.

Polymer production as a blending stock in motor fuel offers the opportunity of making finished gasolines with a wide range of octane values to meet market specifications.

Table 3 gives the specifications of four blended products.

In the first blend, pressure distillate with an original 66 octane rating was blended with natural gasoline and catalytic polymer to produce a 72 octane fuel. The blending value of the catalytic polymer in this blend was 95. In the second blend, straightrun gasoline with a 50 octane rating was blended with catalytic polymer and natural gasoline to produce a 72 octane fuel. The blending value of the catalytic polymer in this instance was 102.

In Blends 3 and 4, a product was made which is comparable to some aviation fuels. The blending value of catalytic polymer in the third blend was 95 and in the fourth blend it was 98. The low gum in these special blends was obtained by the use of an inhibitor. The gum was determined by first subjecting the gasoline to an accelerated aging test at 212° F. with oxygen at 100 pounds pressure for four hours. Then 100 cc. of a mixture of the oxidized sample and gum solvent were evaporated and the residue reported as gum.

Conclusion

Polymer production is useful in blending special gasolines as well as regular motor fuel, and the possibilities of broader uses are still being explored. The greater per cent has been used to blend the refinery gasoline to market specifications. The demand by other refineries has been limited as a result of the cost in comparison to low gasoline prices.

The desirable properties of polymer productions are (1) high octane blending value, (2) low percentage of sulfur, (3) low gum content, (4) high inhibitor susceptibility in blends of low endpoint, and (5) distillation range of motor fuel requirements. The distillation range makes it possible to blend low grade gasolines to higher fuel specifications and the other properties make it possible to produce blends of higher market value.

TABLE 3

	2nd grade motor fuel		Special blends	
	(1)	(2)	(3)	(4)
Straightrun, per cent	...	53	30	61.5
Catalytic polymer, per cent	20	41	70	38.5
Pressure distillate, per cent	70	...	...	...
18-pound natural, per cent	10	6	...	...
Gravity, °A.P.I.	61.7	64.8	65.4	63.9
R.V.P., pounds	6.9	8.6	5.0	4.2
Gum, cu. dish, mgs.	...	...	2.6	2.7
Sulfur, per cent	...	...	.04	.085
Octane No. (L-3)	72.9	72.4	83.0	74.5
I.B.P., °F.	98	97	...	...
10 per cent, °F.	126	141	168	168
50 per cent, °F.	225	226	214	213
90 per cent, °F.	356	333	281	280
E.P., °F.	403	385	322	335
Recovery, per cent	...	...	99.0	99.0
Residue, per cent	...	...	.5	.5
Loss, per cent	...	...	.5	.5

Pulsations on Gas Testing Car Reduced to Improve Metering

By R. D. TURNER
Skelly Oil Co.
Chairman Gas Testing Committee

I believe I can confidently say that the gas testing committee has completed one of its most successful years. You will recall that at last year's convention, the gas testing committee had just finished revising the compression test code, the principal change being the addition of the water jacketed accumulator tank. At that time the code was in the hands of our board of directors for approval. Beginning there, I wish to report that the revised code was approved by our board of directors and transmitted to the American Gas Association with the recommendation that it be adopted as a joint standard replacing the compression test portion of Code 101. The revised version was considered by the measurement committee of the association and certain suggestions for further modification were made by that group.

Chief among these suggestions were recommendations that the three-quarter inch slope of the cooling coil be retained instead of the one-half inch slope and that a reservoir be introduced between the meter and compressor to reduce pulsations and make meter registrations more accurate. Other suggestions were in the nature of minor clarifications and terminology, and were accepted by our committee.

The suggestion to retain the three-quarter inch slope of the cooling coil was considered, but the unanimous opinion was that the one-half inch slope was adequate and that a greater slope would necessitate an increase in the size of the condenser box, which, in the type of cars now being used, would be impractical from a construction standpoint. Also, the committee was assured by test equipment manufacturers that the one-half inch slope gives a greater drainage than most coils now in use.

The suggestion that a reservoir be installed between the meter and the compressor to reduce pulsations received favorable attention since the pulsation problem has been an active one for years. Our committee had sufficient data on record to show that an ordinary small scrubber tank such as the one between the vacuum pump and the meter, would not suffice to reduce the pulsations. A tank large enough to eliminate pulsations would be impractical on the present type of test car. Realizing that this problem would require considerable experimental work and a series of time-consuming field tests with various kinds of deadeners of dampening devices, it was decided to resubmit the code as a tentative standards for both associations pending the solution of the pulsation problem. This matter was explained to the American Gas Association together with our desire to prevent further postponement of settlement testing with the jacketed accumulator. Both associations have now approved the code and it becomes effective July 1, 1939, as a tentative standard, replacing the compression test portion of Code 101.

N.G.A.A. —**Report of the Gas Testing Committee read before the annual meeting of the Natural Gasoline Association of America in Tulsa, May 3, 4, 5**

In the meantime considerable work has been done on the pulsation problem, but a satisfactory solution has not as yet been accomplished. A series of tests were run with a muffler-type device designed by C. A. Mathey of the Mathey Machine Works, which eliminated some of the pulsation but not all of it. Next, we obtained a set of maxim silencers from the Maxim Silencer Co., after informing them fully of the problem which we were trying to solve. These silencers were installed on a test car, one being connected between the vacuum pump and the meter, and the other between the meter and the compressor, and a series of tests were run. Somewhat to our disappointment, the results showed very little reduction in the pulsations on the meter. The silencers were returned to the company with a complete report of our findings. Shortly thereafter we received a reply from them stating that they would continue studying our problem, and that they felt reasonably sure they could design a silencer that would eliminate or greatly reduce the compressor pulsations. Figure 1 shows the pulsations on the meter without the silencers and Figure 2 gives the result when silencers were attached. You will note there is but a slight reduction in pulsations.

Following this, A. Lucas of Skelly Oil Co. constructed a set of gas bags from an old inner tube. One bag was connected to the tee at the discharge of the vacuum pump and the other at the tee on the intake of the compressor. The bags worked on the same principle as an overflow or surge tank. A series of tests were run with these devices installed and we found that the pulsations were entirely eliminated, and the meter on the test car registered within .2 of 1 per cent with the check meter. While we know that the gas bags in their present crude form are not practical for test car work, we do know that we have dis-

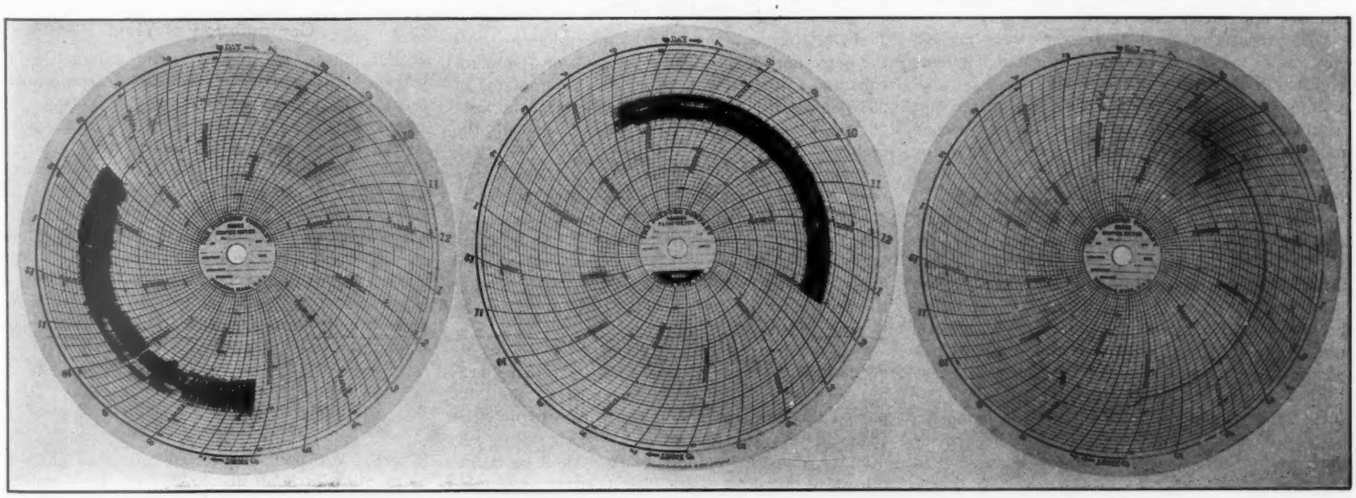


Fig. 1—Pulsations on test car meter using standard equipment

Fig. 2—Pulsations on test car after Maxim silencer installed

Fig. 3—Pulsations practically eliminated after installing inner tube in gas line

covered a principle on which to work toward solving the pulsation problem. At present we have a committee checking the various rubber companies to ascertain the most durable and elastic material that can be found, to the end that perhaps a more practical gas bag may be constructed. Figure 3 shows the great reduction in pulsations obtained with the bags attached.

Parallel with the work which we have done with the various deadening devices, we have also attacked the problem from the standpoint of the meter itself. A new valve of the piston type for test car meters was designed by a committee member, C. E. Wharton of Hanlon-Buchanan, Inc., and a set of these valves was sent to two of the larger meter manufacturers for experimental work. It is hoped that by eliminating the valve chatter in the present type meter it will tend to reduce the meter inaccuracy even though the pulsations are not entirely eliminated. Also the Mathey Machine Works has loaned to each of these meter manufacturers a complete compression testing outfit to be used in their respective laboratories for experimental tests on meter pulsations under actual working conditions. The meter manufacturers have also agreed to experiment with diaphragms of various types which might serve the same purpose as Mr. Lucas' gas bags, and if successful they would, of course, be more durable. With all this work under way we feel sure that some satisfactory solution of this problem will be attained before long.

I wish to thank at this time Mr. Lucas of Skelly Oil Co., Mr. Felton of Phillips Petroleum Co., and those other members of the Gas Testers and Metermen's Association, who worked with them, for the cooperation and assistance they have given our committee in running these pulsation tests. I also wish to commend C. A. Mathey for his advice and assistance in our various test car problems, and I know that the committee appreciates his generous cooperation.

Upon request of the gas contract committee, a series of specific gravity tests were run to determine whether or not other types of specific gravity instruments should be recognized and accepted, having in mind that our standard form of casinghead gas contract provided that the specific gravity test should be made only by the balance method. These tests were run last fall with the generous assistance of the Oklahoma Natural Gas Co. Using gases of known specific gravity such as carbon dioxide, oxygen, and natural gas from the Tulsa city mains, the results of four different instruments were compared. The instruments used were the Large Acme, Small Acme, Anubis, and Metric Gravitometer.

The results of these tests were very gratifying, and in most instances the instruments checked each other on the various gases tested within one-half of 1 per cent or less. As a result of these tests the gas testing committee recommended to the gas contract committee that the second sentence of Paragraph 8 of the standard form of casinghead gas contract be changed to read as follows: "The standard method of determining specific gravity shall be in accordance with the specifications and test procedure of said association for the determination of specific gravity of natural gases by the balance method. Other practical field methods of determining specific gravity having the accuracy of the standard balance method, may be used." A report of these tests was also sent to the Bureau of Mines for their reference in connection with the extensive series of tests with all types of specific gravity determining devices which is being conducted in Washington.

Another accomplishment of which the committee may be justly proud and one which will be of definite and tangible value to the industry, is the development of a factory sealed can containing only enough charcoal for one individual charcoal test. After studying a number of different types of containers and consulting with several manufacturers, the committee agreed that a plain, wholly sealed, tin can measuring 1⅜ inches by 2⅞ inches by 4⅝ inches would be most satisfactory. It was felt that such a container would be more nearly tamper proof that other designs and that it could not be refilled since it must be punctured by a device similar to that used in opening a beer or sealed oil can. The cans will contain exactly 250 cc.'s of standard mesh charcoal guaranteed to be within two minutes of specified activation, will be stamped with N.G.A.A. approval and carry the specification on a label.

When the idea of factory sealed cans was first discussed, it was hoped that the cost per test, of charcoal sealed in this manner, would not greatly exceed the present cost. It is easy then to imagine our gratified surprise to find that the actual cost per test would run a few cents less than it had been even with bulk purchases. The prices quoted for the sealed cans containing 250 cc.'s of specification charcoal are as follows:

Lots of	Cents per can
100	25
250	23
500	21½
1,000	20

From a survey which we made we found that the average charcoal cost per test at present ranged from 22 cents on large bulk purchases to about 35 cents per test on smaller bulk purchases. Controversies between two testers in the field, resulting in a trip back to the plant laboratory to test the charcoal, thus losing both time and money, should be eliminated. These are the principal advantages of the sealed cans, to say nothing of the convenience and saving. Therefore, it seems highly probable that the use of factory sealed charcoal containers will be quite universally adopted within the near future.

On behalf of the Gas Testers and Meter Men's Association I wish to announce that the handbook, which they have been compiling for the past two years, is now completed.

TESTING

(Continued from Page 52)

chanical condition, and must be absolutely free from leaks under operating conditions.

(*c*) The testing equipment, or any of its parts, shall be open to inspection by any party having a direct interest in the test.

Procedure of Test

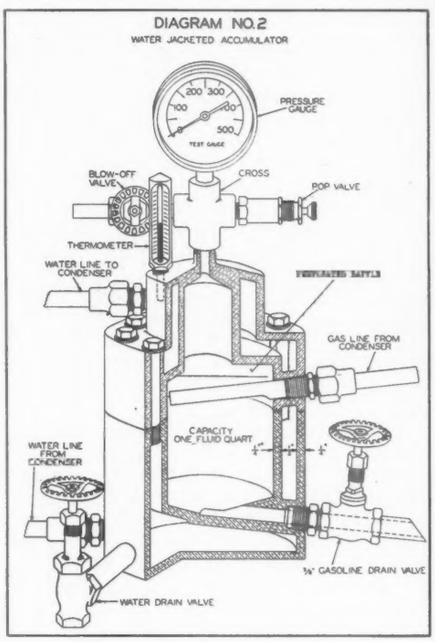
(*a*) Before starting the compression test, let the machinery run with the pressure on the meter constant and the pressure on the accumulator at 265 pounds per square inch gauge, until at least 20 cu. ft. of gas shall have passed through the meter.

(*b*) When at least 20 cu. ft. of gas shall have been passed through the apparatus, the condensate therefrom shall be blown completely from the accumulator without relieving the accumulator pressure below 250 pounds per square inch gauge, and the test then started by quickly closing the accumulator draw-off valve and simultaneously reading the gas meter.

(*c*) A quantity of gas equal to 13.21 cu. ft. or 26.42 cu. ft. at 4 ounces above atmospheric pressure and a temperature of 60° F. shall be passed through the machine at a rate of not less than 2 cu. ft. and not more than 2.5 cu. ft. per minute. The flowing temperature shall be determined by reading the meter thermometer midway through the test. Other volume, pressure and temperature bases may be used by agreement between contracting parties.

A constant pressure of 250 pounds per square inch gauge shall be maintained on the accumulator by means of an escape valve provided on the top of the accumulator, and as soon as the required quantity of gas has been passed through the apparatus, as stipulated for the test, the apparatus shall be stopped.

(*d*) The pressure on the accumulator shall then be reduced, at a rate not less than 25 pounds per minute and not more than 50 pounds per minute, to 50 pounds per square inch gauge, by venting of residue gas. The condensate shall then be withdrawn from the accumulator into a clean graduated glass cylinder and the quantity and temperature of the contents be immediately determined. The temperature of the condensate



shall then be steadily raised at atmospheric pressure to 60° F., at a rate not to exceed 2 degrees per minute. The hydrocarbon condensate thus obtained shall be considered the natural gasoline content of the gas sample.

A check test shall be made immediately and results averaged, and if found to be unsatisfactory, a total of five tests shall be run and the average results of these tests shall be considered the natural gasoline content of the gas.

Computation of Yield

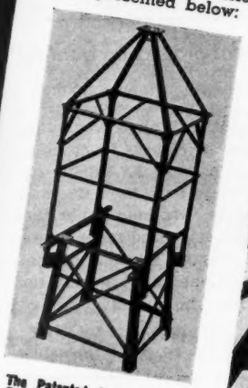
For a test run of 13.21 cu. ft. of gas, or its proper equivalent as corrected for temperature, the gallons of natural gasoline per 1,000 cu. ft. of gas shall be computed by multiplying the cubic centimeters of natural gasoline at 60° F. as provided for above, by the factor 2, and dividing this product by 100. For a test run of 26.42 cu. ft. of gas, or its proper equivalent as corrected for temperature, the gallons of natural gasoline per 1,000 cu. ft. of gas shall be computed by dividing the cubic centimeters of natural gasoline at 60° F. as provided for above, by 100. If the results are desired in gallons of gasoline per 1,000,000 cu. ft. of gas, the following formula shall be used:

$$X = \frac{264.2\,B}{A}$$

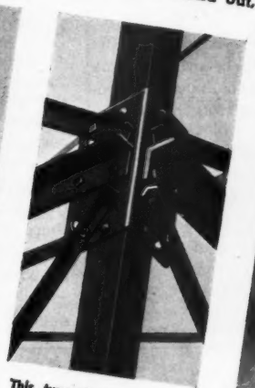
Where A is the total corrected volume of gas used in the test in cubic feet; B is the total natural gasoline measured in cubic centimeters at 60° F., and X is the gallons of natural gasoline per 1,000,000 cu. ft. of gas.

Values that STAND OUT in PARKERSBURG DERRICKS

The true advantages embodied in Parkersburg Derricks stand out best when the going really gets tough . . . like a stuck string of drill pipe, or coming out with a two-mile string of 4-inch through 15-pound mud, or any of the emergencies that are a part of modern drilling. It's these advantages, combined, which have put Parkersburg Derricks on most of the world's deepest wells where drilling requirements call for reserve strength far beyond rated derrick capacity. Two of the Parkersburg derrick values, which **stand out**, are presented below:



The Patented Pyramid Type Gin Pole assures an equalized distribution of the load to each derrick leg and provides sufficient clearance for the largest and highest crown blocks.



This type of leg joint construction assures a strong, rigid joint, proved by actual tests to be stronger than the calculated ultimate capacity of the derrick leg section.

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A-2-39

RHODES POOL PLANT

(Continued from Page 51)

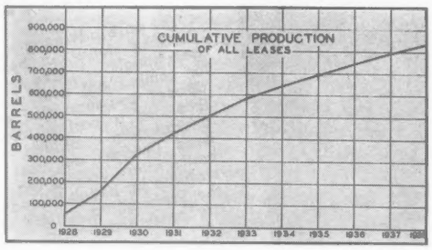
ing injected to each of the 12 key wells. This is necessary to prevent any channeling of gas through the 15- to 20-foot pay sands, thereby causing bypassing of some recoverable oil. In controlling the input gas, the injection volume to each well is largely regulated by gas-oil ratios and oil production of producing wells around each injection well. Weekly gas tests are made on each producing well and gas-oil ratio obtained at the casinghead, the well hookup being designed so that the tests can be easily made. When any well is found producing with a high gas-oil ratio, the volume of injection gas to the nearby key well may be promptly reduced or the well back-pressured, or both.

The repressuring project is being carried out under the supervision of Jo Cable, petroleum engineer of Wichita Falls, Tex. The plant was built by Frick-Reid Supply Corp. with P. C. Minnick of that company in charge. B. F. Lawley is the new plant superintendent.

The Rhodes pool lies just southeast from the Bryson field, and is believed to be on the same regional, but is separated by a hard nonproductive section of sand. The 3,000-foot pay in the Rhodes pool is believed to be the same as the 2,950-foot pay in Bryson; thus, results obtained from repressuring in the latter should throw some light on what might be expected in the Rhodes pool.

The Bryson field was discovered in April 1928, the discovery well being brought in with 240 bbls. daily, producing from a depth of 2,957-67 feet. In this field the 1,300-foot Strawn group, encountered at depths from about 1,550 to 3,850 feet, consists of alternating limestones, shales, and sandstones. The Panhandle Refining Co. discovery well opened production from the "Panhandle-Daugherty" sand and later in the field's life production was opened in the Buttram and Bond sands above the Panhandle-Daugherty and from the Box, upper and lower Petroleum Producers Jones sands and from the Prairie-Bryson sand below.

Regional feature of the Bryson field, according to Bowen and Gibbs[1], is a northwest dipping



Annual production from all leases in Bryson field

monocline. While production is controlled by structural features (such as anticlinal noses) to a certain extent, the lensing of the sand bodies is believed to have been the main factor of accumulation. It was found that though some parts of the pay evidenced more productivity than others, there was an increase in the rate of production as additional sand penetration was taken, thus showing the sands were generally productive throughout their entire thickness. This is contrary to many Strawn sand fields where all the oil seems to be contained in a few feet of sand and the other parts of the sand nonprolific. Recoveries of about 7,500 bbls. per acre are expected.

In the older part of the Bryson field drilled in 1928 and 1929 three companies, Panhandle Refining Co., Harper Petroleum Co., and Perry and Woody, have had repressuring operations under way for several years. The latter company also placed a second project in operation in South Bryson late last year.

At the Perry and Woody project in the older part of the field a 150-acre lease with five producers and one injection well is being repressured. This project, under way since late in 1937, was started up with a slow rate of gas injection to avoid channelling and has been carried out with the view of obtaining a higher ultimate recovery of oil rather than a temporary increase in production. As a result, production, which showed considerable reduction while repressuring was first getting under way, during 1938, was slightly under that of 1937, comparable figures being 14,385 bbls. and 18,665 bbls., respectively. The gas injection volume now has been built up to 70,000 cu. ft. daily and production is comparable with that of 1937.

At the Perry and Woody lease in South Bryson, 100 acres with eight producers and one injection well, favorable results are also being accomplished. Some 220,000 cu. ft. of gas is being injected daily at this lease.

Late in 1935, Panhandle Refining Co. started repressuring two of its leases in the older part of the Bryson field. One lease contained five producing wells and one key well and the other four producers and one key well. Gas injection in this

[1]Bryson Oil Field, Jack County, Texas. A.A.P.G. Bulletin Vol. 16, No. 2 (Feb. 1932), pp. 179-88.

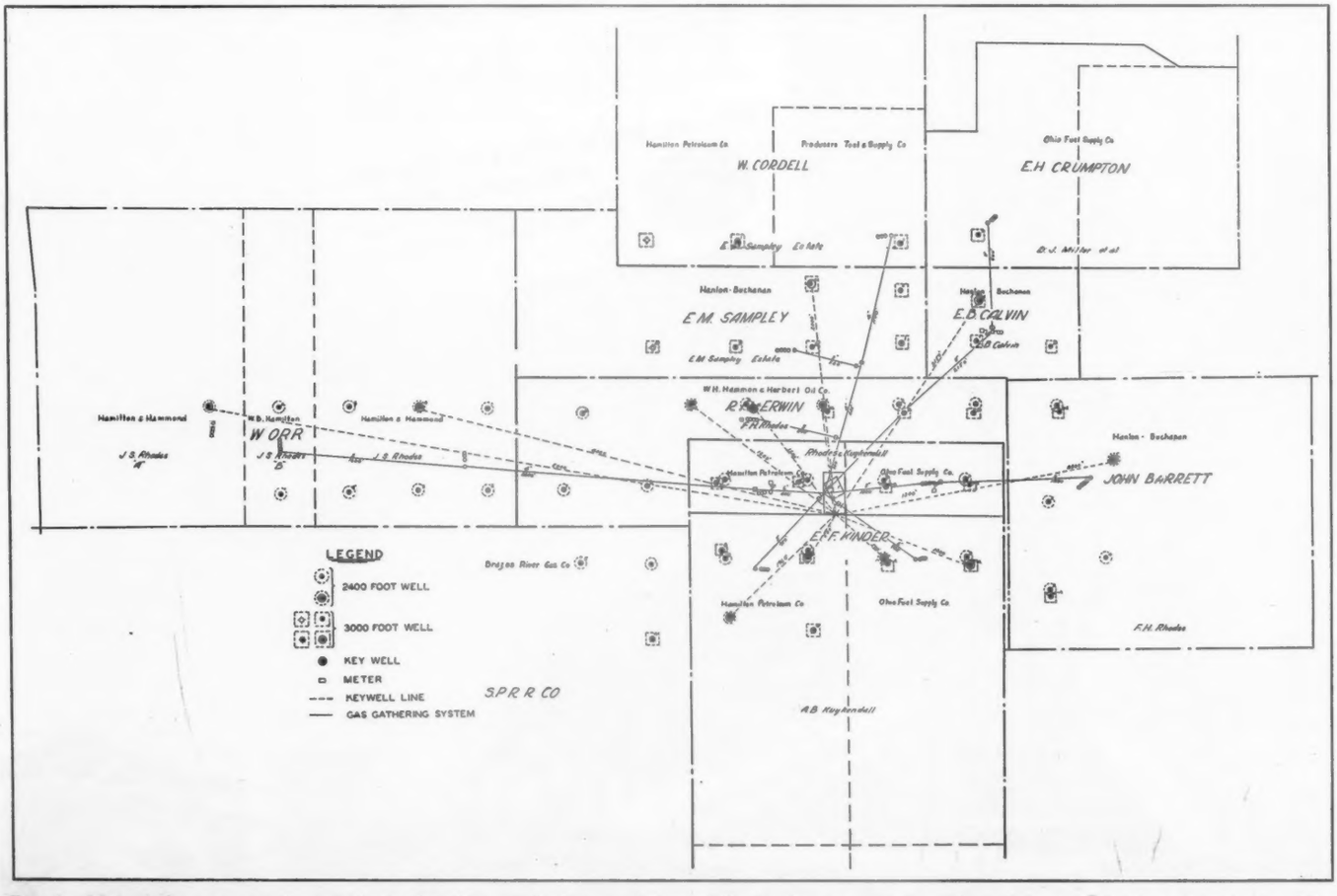


Fig. 2—Plat of the repressuring project, showing producing and key wells in the two sands and gathering and gas return lines. Map courtesy Jo Cable, petroleum engineer, Wichita Falls, Tex.

project likewise was slowly built up and at present some 100,000 cu. ft. is being returned daily.

Annual production from the two leases being repressured is shown in Figure 3. While in some instances production has shown a slight decline since the project was started, rate of decline is not nearly so great as if repressuring had not been used, as an extrapolation of the production curves prior to commencing of repressuring operations will show. Lease A which is producing from the Petroleum Producers Jones sand, prior to the starting of repressuring was producing at

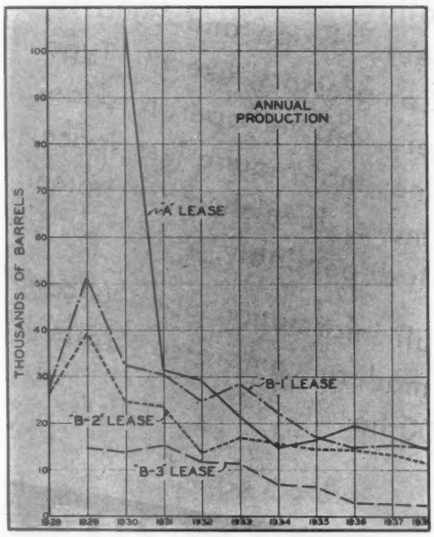


Fig. 3—Typical production trends on various leases, Bryson field. Note how production decline flattened out after repressuring started in 1935

the rate of 14,800 bbls. annually in 1934. In 1936 annual production was 19,700 bbls.; in 1937, 17,000 bbls. and in 1938 was 14,000 bbls. Thus after three years of steady production the lease is now producing only some 800 bbls. annually less than in 1934. Lease B-1 shows a decline of only some 3,000 bbls. in the past three years, B-2 shows a decline of 4,000 bbls., and B-3, a decline of 3,000 bbls.

The plant was designed primarily as a recycling plant, but natural gasoline manufactured since it was placed in operation has practically paid its cost of operation. Also since operators must pay 20 cents per 1,000 cu. ft. for extraneous gas piped into the field, considerable saving has been accomplished through gas conservation.

Ipatieff Is to Be Honored By European University

Dr. V. N. Ipatieff, director of chemical research of Universal Oil Products Co., is to receive the honorary degree of doctor of chemistry from the University of Sofia, Bulgaria, on May 20, during the celebration of the fiftieth anniversay of the founding of that institution.

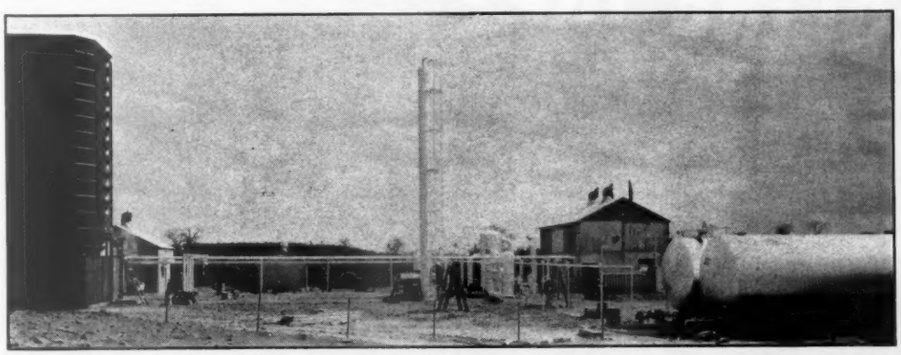
Professor Ipatieff sails May 3 on the Normandie to receive this honor. He has also been invited by President Du Pont of the French Chemical Society to be guest of honor at a joint meeting on hydrogenation of three French chemical societies, in Paris, May 24 to 28. Paul Sabatier, also famous as a pioneer in hydrogenation, will be a guest as well.

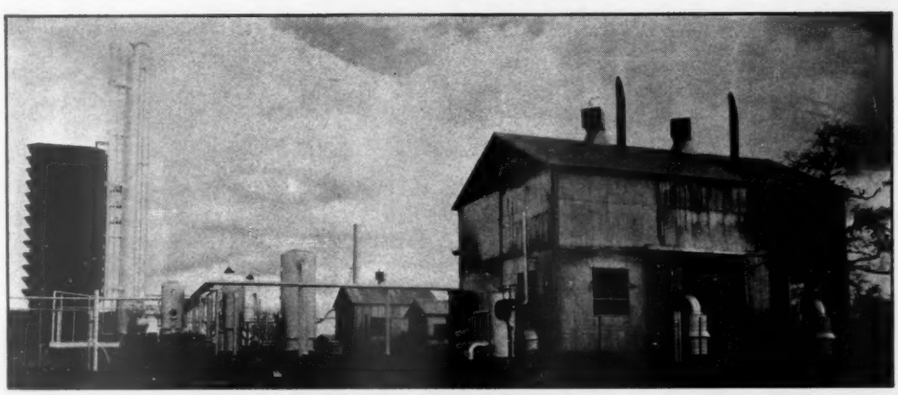
Professor Ipatieff will present a paper on "Copper as a Catalyst for the Hydrogenation of Benzene."

Chemists of many nations will assemble at Strasbourg, France, May 29, to celebrate a week of Improvement in Petroleum. Professor Ipatieff will attend this meeting and will present a paper, "Activity of Mixed Catalysts."

While in Paris, Professor Ipatieff will visit the high-pressure laboratory of James Basset.

He plans to leave France for home June 7 to proceed with the establishment of the high-pressure laboratory he is founding in collaboration with Universal Oil Products Co. at Northwestern University.





Views of the Rhodes Pool Gasoline Co. natural gasoline and repressuring plant, of 2,000,000 cu. ft. daily capacity

Specify Genuine CROSBY CLIPS for all wire line fastenings. The Red U-Bolt is the sign of

PERFECT GRIP
DROP FORGED STEEL
HOT GALVANIZED

There is a CROSBY CLIP Dealer near you with all sizes in stock. Ask us for his name.

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Fearless as the Dragon."

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Since 1912, Dragon Valve and Pump Cups have proved most dependable where dependability counts most—*out there on the job!*

For Deep Wells

They are "tailor-made" by cup builders who specialize in their *one* job—building cups to deliver *extra*-long service.

Toughest materials, especially processed to meet rigid tests, Dragon Cups—*Composition, Nobs* and *Leather*—Surely take *an over-dose of punishment,* while saving *your* profits, time and nerves.

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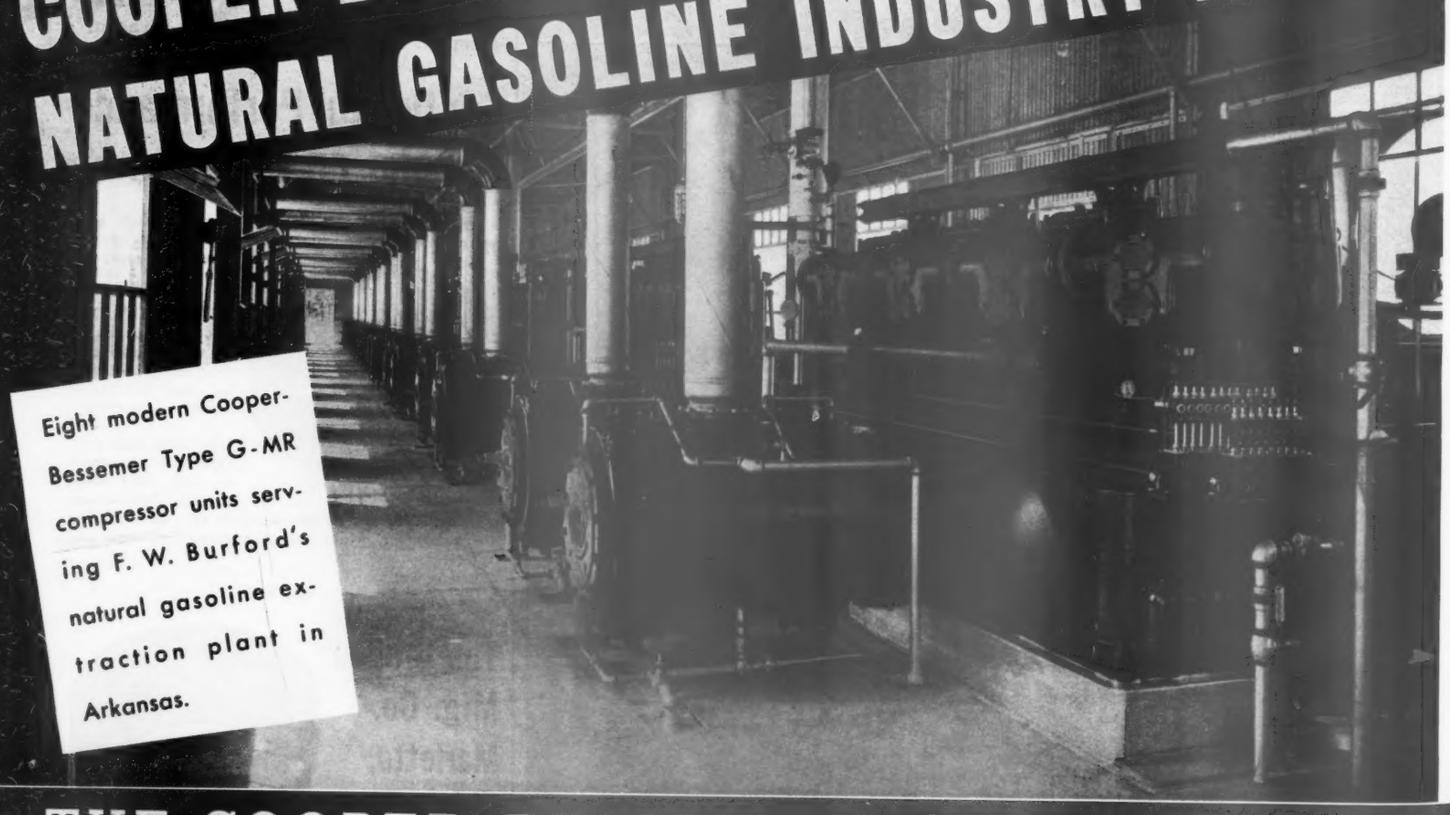
In Canada, this Cooper-Bessemer compressor bears a plaque marking it as the first unit for natural gasoline extraction service in the Dominion.

Cooper-Bessemer compressor units were being used in the newest outposts of 1914. Today still finds them the very finest in compressor equipment for an ever advancing industry.

Alert to the constantly changing needs of the natural gasoline industry, Cooper-Bessemer engineers design and build to match its pace. Compressors, like the Type G-MR's shown here, answer operators' demands for machines that require less space, are easier to move, furnish more horsepower, and do it dependably.

Write us for full information upon a complete line of modern compressor units of from 50 to 1500 hp.

COOPER-BESSEMER STILL PACES THE NATURAL GASOLINE INDUSTRY IN '39



Eight modern Cooper-Bessemer Type G-MR compressor units serving F. W. Burford's natural gasoline extraction plant in Arkansas.

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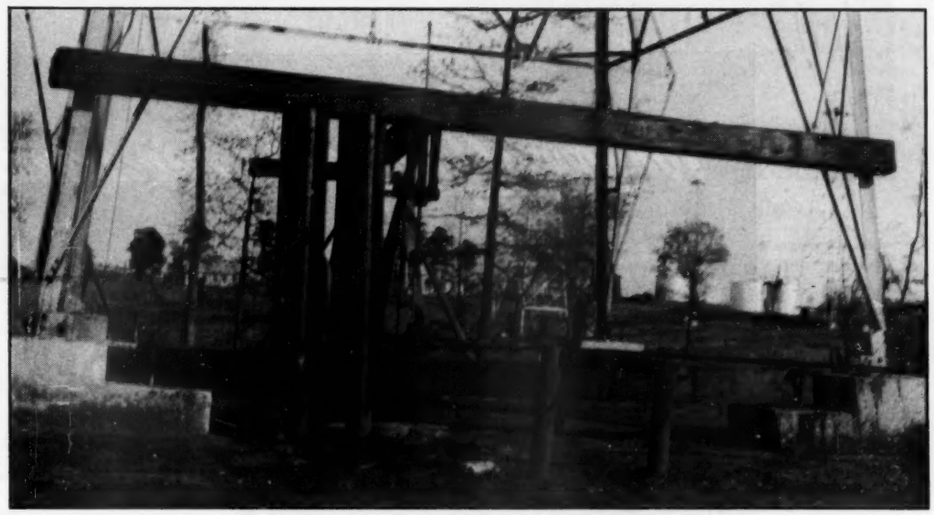
OPERATING IDEAS

Bypass Simplifies Control

No two boilers in a drilling-rig battery steam alike, and their rates of steam generation vary with weather and wind changes, requiring frequent regulation of feed-water valves and unnecessary wear on the valve in the feed-water line due to pinching down and consequent wire drawing or cutting. To simplify the regulation and distribution of feed water to the three boilers of a battery, a drilling company installs a bypass around the main valve in the 2-inch feed-water line. This bypass valve, being of much smaller diameter, can be run wider open than the 2-inch and the cutting effect of a pinched stream avoided. With the small valve closer regulation of the amount of water used can be secured, and when long use eventually requires replacement, the cost of the small valve is much less than would be the case were the main gate to be replaced. Under normal steaming conditions the large valve remains closed, and all regulation is through the bypass; but when a boiler is to be filled, the full-flow capacity of the feed-water line is available simply through opening the valve on the main line to the boiler.

Concrete Counterweights

Concrete blocks, cast on the job, are widely used around drilling rigs as counterweights on wire-line guides, tool counterbalances and similar work. One drilling company utilizes the discarded casing-thread protectors as forms in which to cast these concrete weights, leaving the steel rim to serve as outside finish for the block and thus to protect it against accidental breakage and consequent dropping of the tool which it is supporting. By centering a short bit of ordinary trace chain in the protector as the mold is filled with concrete, a flexible means of attaching the counterbalance cable is provided. Overrunning and consequent "skying" of the tool is prevented by locating the counterweights over sills or foundation cribbing, so that downward travel is halted with the tool still within reach of the derrick floor.



Chafing Irons Protect Idler Frames

By bolting two sections of 4-inch pipe to the uprights carrying the idler pulley provided at each derrick for servicing operations, the wooden frame is protected from wear by vibrating line, and the possibility of flying splinters is eliminated. The chafing irons or pipe also greatly stiffen the vertical members of the frame and enable lighter timbers to be used than would be the case where wood alone is used. The projecting pipe guards also fend off the winch truck when maneuvering for position and prevent possible breakage of the cast-iron pulley.

Enclosed Holddowns

To carry a rod line beneath a busy highway in the East Texas field two holddowns were required, being set with rather more than one-half their height below ground level. Since the highway was also used by many pedestrians, it was thought advisable to guard the rod-line equipment against possible accident. To enclose the holddowns and protect the sloping pit giving access thereto, a wooden cover was carried over the concrete pit walls, with inverted "V" of timber surrounding the holddown bearing and supporting frame. When so enclosed, there is no visible moving part to excite curiosity and possibly tempt tampering which would lead to injury. Provision for inspecting the holddown and lubricating the top bearing was afforded by having the central plank of the inverted V-housing removable, a cleat retaining it in place, yet giving the necessary handhold for getting to the equipment below. This same company also protects all moving parts of the rod-line hookups on its leases with warning signs carried either on the swings and jacks, or conspicuously displayed nearby on posts in prominent positions where they can be easily read by those passing along the road.

For Lower Upkeep of Drives and Machinery

DEMAND *Super-Flex* DAYTON COG-BELTS WITH DAYTEX CORD

TO STEP-UP YOUR PRODUCTION—to lower the upkeep of your drives and machinery Dayton's famed technical laboratories spent 7 years developing these new Super-Flex Dayton Cog-Belts with Daytex Cord in their neutral axis section.

STEEL-LIKE IN STRENGTH, Daytex Cord is made from highest grade long-staple, hard-bodied cotton. A bonding compacting agent removes, during the process of manufacturing, the non-essential oils and waxes from the individual fibres. As a result, the fibres interlock and form a stronger, yet more compact cord.

SMALLER IN DIAMETER because of Daytex Processing this Super-Flex Cord averages 22% less diameter—it stands up under constant high speed flexing. It has greater tensile strength. Furthermore, it has lower stretch and, due to interlocked fibres, has minimum tendency to become lifeless.

COOLER RUNNING because highly developed rubber compounds are forced into and around each individual cord, this denser Daytex Cord is made by patented Latexing and Calender Processes, which have been pioneered and constantly improved by Dayton for 19 years.

OUTSTANDING IN BASIC DESIGN, Super-Flex Dayton V-Belts are built to bend with patented cog construction. They work on short centers—save space—assure longer life and lower upkeep. Call your local Dayton distributor or write for Catalogs and data.

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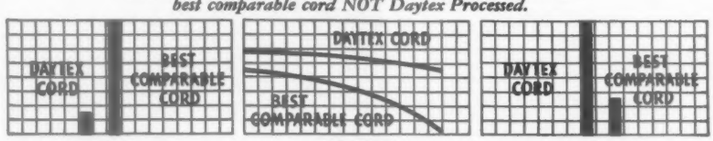
FIELD EXPERIENCE CONFIRMS THESE LABORATORY TESTS WHICH PROVE THE OUTSTANDING SUPERIORITY OF DAYTEX CORD

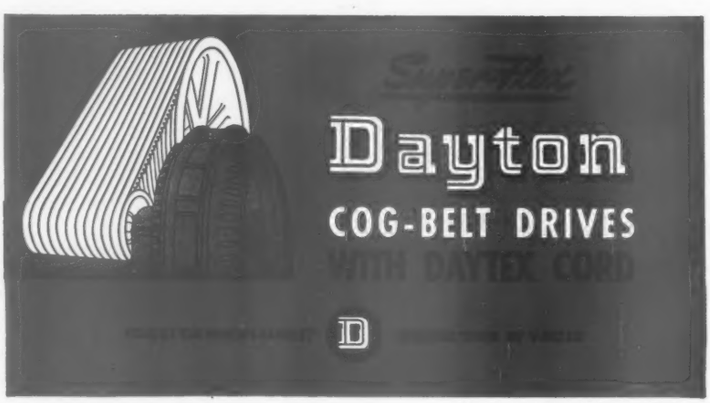
The Charts below show tests of Daytex Process Cord versus best comparable cord NOT Daytex Processed.



LESS STRETCH *Stretch test-cords.*

STRONGER *Tensile test-cords.*

LONGER LIFE *Belt flexing test.*



QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Influence of Low Temperature When Using Doctor Treatment

Difficulty is found in getting a break with doctor when treating at —40° F. Is there any way to determine proper strength of plumbite solution for this temperature? How is the solubility of sulfur in gasoline determined for different temperatures?—M. G.

At normal temperatures about 0.4 per cent of brimstone sulfur is soluble in gasoline, but with elevation of temperature the quantity may be increased to about 1.5 per cent. The reference works available do not give any data covering the solubilities at very low temperatures, however, it is known that sulfur does crystallize from a gasoline solution when the temperature is lowered.

It is not good practice to treat at so low a temperature as 40° below zero for several reasons. It is a fundamental rule of chemistry that most reactions are accelerated with rise in temperature and many chemical changes are inhibited by cooling. As the temperature is lowered less litharge is soluble in sodium hydroxide to form the sodium plumbite; also, the quantity of sulfur available for the reaction would be lessened under low temperature conditions. The better scheme would be to house the treating unit so that the liquids may be handled at higher temperatures.

The way to determine the solubility of sulfur at different temperatures would be by trial. The quantity of sulfur, volume of liquid and temperatures, together with time, being recorded.

State Regulations Covering Octane Number of Motor Fuel

Have you any data regarding legislation wherein the octane number of gasoline must be available to the purchasing public? I am informed that some states have laws governing this matter.—V. B.

Most of the states have adopted the federal specifications for U. S. Government Motor gasoline, which does not include octane rating, in their regulations covering the quality of the gasoline distributed. The only federal specifications which do stipulate octane values are those relating to the fuel for aircraft use by the Army and Navy. The marketing practice has developed a series of octane numbers as added requirements to those for U. S. Motor gasoline, or some other recognized standard.

The trade makes use of three main classifications or general grades for motor fuel. Grade 1 is the premium priced gasoline, having a minimum octane number of 78 (L.C.M.), which is required to be dyed red. This is the well-known Ethyl Gasoline. Grade 2, regular or house brand, should have a maximum 72 octane value. Both grades are usually brought to the desired octane rating through the addition of tetraethyl lead. The lowest octane gasoline is the third grade, usually testing below 62. This product contains no lead. There has recently been introduced a third grade gasoline, modified with lead, having an octane rating of 67. All gasoline treated with lead is required by contract with the Ethyl Gasoline Corp. to comply with definite specifications covering octane rating and other properties.

These conditions have been recognized by the supervising commissions in several states by including conditional specifications. The essentials are given and are not direct quotations from the laws or regulations.

Mississippi: (*a*) Any gasoline showing an antiknock characteristic equivalent of not less than 76 octane number shall be classified "premium grade gasoline," to be colored red only. (*b*) Any gasoline showing an octane number of not less than 68 shall be classified "regular grade gasoline," colored any color except red. (*c*) Any gasoline which shows an antiknock characteristic not more than 68 nor less than 50 shall be classified "No. 3 station grade gasoline" and shall not be colored.

North Dakota: Any gasoline that shows antiknock characteristics of not less than octane number 68 may be any color except red; provided, however, that any gasoline that shows antiknock characteristics of not less than octane number 76 may be colored by the use of any harmless dye. Any gasoline showing an antiknock standard of less than octane number 68 must be sold without the addition of any foreign coloring matter.

South Dakota: It shall be unlawful to sell, etc., any motor fuel which is colored red unless such gasoline or other motor fuel shall possess an antiknock value or octane number of 74 or more. It shall be likewise unlawful to sell, etc., any gasoline or other motor fuel which is colored in any manner or which fails to meet the color requirement—shall not be darker than No. 16 Saybolt—if the octane number of such fuel shall be less than 65.

Louisiana: Approved premium gasoline with a minimum of 72 octane number.

North Carolina: Premium grade not less than 75; regular not less than 68; motor grade not less than 60. Each of the above must have one additional octane number if the sample is withdrawn from storage.

Minnesota: Gasoline claimed to be 65 octane number or better shall be colored.

Utah: Octane values are required. First grade minimum is 67; second grade minimum is 65; third grade minimum is 45.

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Principles Related to Corrosion of Iron Pipe in Soils

Is there a definitely proven law to explain the corrosion of pipe in the several types of soils? Any information on this subject will be of much assistance.—H. R. A.

There is no one thing that can be said to be responsible for the corrosion of iron pipe that is covered with soil. There are several agencies known to be responsible for most of this form of corrosion, and these have been discussed by many authorities. A brief treatment of the subject was present in the paper before the American Petroleum Institute by J. M. Pearson. Some abstracts are taken from this paper to answer the question.

Corrosion is fundamentally an electrochemical process according to the basic reaction:

$$Fe + 2H \rightleftarrows Fe^{++} + 2H$$

Hydrogen ions tend to give up their charge to iron atoms, producing iron ions and nacent hydrogen. In stray-current electrolysis the iron undergoes an exactly similar change, except that the impressed current furnishes the charge for the iron ions. Two electrical equilibria are presented:

$$Fe \rightleftarrows Fe^{++} + 2e^{-}$$

$$H \rightleftarrows H + e^{-}$$

The tendency of these reactions to proceed can be expressed in terms of a potential which depends on the ion concentration and the temperature, and gas pressure. The rules of chemical reactions apply, viz., an increase on one side of the equation drives the reaction in the direction of the other side.

Upon covering pipe there are formed numerous cathodic areas upon which hydrogen ions discharge and corresponding anodic areas at which iron ions go into solution. Precipitation of the iron ions as insoluble salts at the anodes, or removal of the hydrogen film at the cathodes, can separately or collectively promote corrosion. In most cases depolarization of the cathodes with dissolved oxygen is the controlling factor.

If the pipe is in a soil having much acid, pH 3 to 4.5, the tendency of the iron to go into solution at the anodes is so strong that hydrogen may bubble off from the cathodes. If the soil is buffered, or porous enough so that ground water can circulate, the supply of acid is renewed and the corrosion proceeds rapidly.

Soil waters less acid or slightly alkaline, pH 5.5 to 7.5, cause corrosion in proportion to the oxygen concentration. Dissolved chlorides, nitrates, and sulfates tend to form soluble compound which give but little protection. The silicates and carbonates of alkaline soils form very tough protective coverings.

Reference: J. M. Pearson, The Value of Soil-Survey Methods, American Petroleum Institute, Chicago, Ill., November 18, 1938.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired, postage should be included.

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BRADEN Sectional Steel Buildings offer the Natural Gasoline Manufacturer 6 important savings:

(1) Low First Cost, as they are constructed completely from standardized sections; (2) Low Erection Cost, as parts are easily and quickly bolted together; (3) Low Maintenance, due to extraordinary durability; (4) 100% Portability; (5) 100% Re-erectability; (6) Standard Materials throughout, assuring quick replacements in case of damage.

BRADEN Buildings are in wide use for gasoline plants. They pioneered in this field. A 14-Year Tradition of Reliability and Service.

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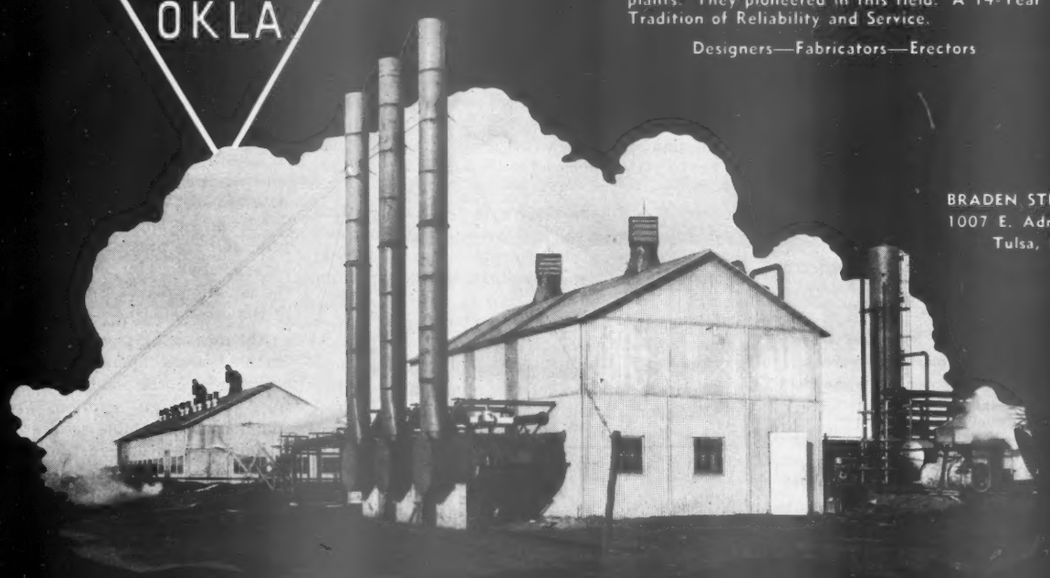

BRADEN STEEL CORP.
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Tulsa, Okla.

DETAILS IN 1939 COMPOSITE CATALOG

BRADEN

SECTIONAL STEEL BUILDINGS

Natural Gasoline Company Personnel

A

Agua Dulce Co., The, 2202 Alamo National Bldg., San Antonio, Tex.

J. Wood Glass, *Pres.* F. C. Henderson, *V. P.* F. C. Hall, *Sec.* E. P. Henderson, *Treas.* F. C. Hall, *Pur. Agt.* Z. P. Armstrong, *Ch. Chem.* George C. Bonecutter, Robstown, Tex., *Ch. Engr.* and *Plant Supt.* 1 plant in Texas. Capacity, 40,000.

Airolene Gasoline Corp., Box 260, Shamrock, Tex.

Forrest E. Gilmore, *Pres.* Howard Reid, *Sec.* O. L. Hay, *Treas.* and *Pur. Agt.* C. W. Gilmore, *Gen. Supt. Gaso. Plant.* F. E. Gilmore, *Sales Mgr.* and *Ch. Engr.* 1 plant in Texas. Capacity, 2,000.

Akin Gasoline Co., 1801 National Bank of Tulsa Bldg., Tulsa, Okla.

J. H. McCoy, *Pres.* C. M. Withington, *V. P.* H. R. Johnson, *Sec.* and *Treas.* Plants in Oklahoma. Capacity, 600.

Aldon Gasoline Co., National Bank of Tulsa Bldg., Tulsa, Okla.

Hugh Ownby, *Pres.* Paul M. Raigorodsky, *V. P.* Wilbur J. Holleman, *Sec.* R. J. Wallace, *Treas.* Paul Schaefer, *Gen. Supt.* and *Pur. Agt.* Paul M. Raigorodsky, *Sales Mgr.* E. W. Burt, Haven, Kans., *Plant Supt.* Plant in Kansas. Capacity, 10,000.

Alum Rock Gas Co., 78 Mill, Port Allegany, Pa.

C. I. Crippen, *Pres.* J. H. Isherwood, C. R. Beddows, *V. P.s.* J. D. Forsyth, *Sec.* C. R. Beddows, *Treas.* E. H. Crippen, *Gen. Supt. Gaso. Plant.* 1 plant in Pennsylvania. Capacity, 500.

American Oil Development Co., 1601 Oliver Bldg., Pittsburgh, Pa.

Harry S. Tack, *Pres.* Theodore E. Tack, *V. P.* Willis H. Siegfried, *Sec.* Augustus V. Tack, *Treas.* John Petty, Sistersville, W. Va.; George H. Hays, Robinson, Ill., *Plant Supts.* 6 plants in West Virginia and Illinois. Capacity, 2,300.

Anzac Oil Corp., 410-16 Coleman Office, Coleman, Tex.

M. G. Cheney, *Pres.* W. E. Stepp, *Sec.* and *Treas.* R. E. Alsop, *Gen. Supt.* 1 plant in Texas. Capacity, 600.

Arab Gasoline Corp., Fifth Floor, Exchange Bldg., Eastland, Tex.

Samuel Butler, *Pres.* P. T. Sharples, *V. P.* W. E. Cox, *Sec.* and *Treas.* Franklin Dwyer, *Gen. Supt.* Samuel Butler, *Sales Mgr.* Roy L. Allen, *Pur. Agt.* R. S. Bailey, Eastland, Tex., *Supt.* 1 plant in Texas. Capacity, 25,000.

Arkansas Fuel Oil Co., Slattery Bldg., Shreveport, La.

J. R. Munce, A. F. Holliday, *V. P.s.* D. W. Harris, *V. P.* and *Gen. Mgr.* A. H. Weyland, *Gen. Supt.* T. J. Heard, *Sec.* B. R. Muirhead, *Treas.* E. P. Farmer, *Gen. Supt. Nat. Gaso. Plants.* J. A. Welch, *Sales Mgr.* J. Lucas, *Pur. Agt.* H. T. Goss, *Ch. Engr.* T. F. Gordon, Longview, Tex.; H. Duckworth, Homer, La.; R. E. Biggs, Simsboro, La.; J. F. Smithson, Vivian, La.; S. Cunningham, El Dorado, Ark.; J. I. Ramsey, Sligo, La.; A. J. McKinnon, Jefferson, Tex.; E. F. Brent, Smithland, Tex., *Supts.* Plants in Arkansas, Illinois, Louisiana and Texas. Capacity, 157,000.

B

Bankline Oil Co., 634 S. Spring St., Los Angeles, Calif.

John Barneson, *Pres.* H. J. Barneson, J. L. Barneson, Lionel T. Barneson, *V. P.s.* W. E. Kropp, *Sec.* L. L. Aubert, *Gen. Mgr.* H. M. Paulsen, *Asst. to Gen. Mgr.* John C. Penn, *Pur. Agt.* L. J. Patrosso, Box 6203, Signal Hill, Calif., *Supt.* Plant in California. Capacity, 20,000.

Barnsdall Oil Co., Petroleum Bldg., Tulsa, Okla.

E. B. Reeser, *Pres.* R. A. Broomfield, *Exec. V. P.* James A. Dunn, D. L. Frawley, L. D. Messner, D. R. Snow, William C. Whaley, E. M. Skeehan, R. A. Broomfield, Jr., *V. P.s.* James A. Dunn, *Sec.* L. D. Messner, *Treas.* H. W. Manley, *Gen. Supt. Gaso. Plants.* O. E. McClatchey, *Pur. Agt.* J. T. Hayward, *Ch. Engr.* E. E. Troyer, Avant, Okla.; J. O. Green, Earlsboro, Okla.; G. R. Nicholas, Turley, Okla.; R. W. Shannon, Oxford, Kans.; Frank Chamber, Beggs, Okla.; Neal Hummel, Odessa, Tex., *Plant Supts.* 6 plants in Oklahoma, Texas and Kansas. Capacity, 60,000.

Barnsdall Oil Co. (California Division), Petroleum Securities Bldg., Los Angeles, Calif.

R. A. Broomfield, *Exec. V. P.* W. C. Whaley, E. M. Skeehan, R. A. Broomfield, Jr., *V. P.s.* P. Stanley, *Asst. Sec.* and *Asst. Treas.* J. C. Gilbert, *Gen. Supt. Gaso. Plant.* W. S. Cederlof, *Pur. Agt.* J. R. Irvine, *Ch. Chem.* O. C. Nelson, Goleta, Calif., *Plant Supt.* 1 plant in California. Capacity, 40,000.

Abbreviations

Chm. Bd.—Chairman of Board
Pres.—President
V. P.—Vice President
Sec.—Secretary
Treas.—Treasurer
Gen. Mgr.—General Manager
Gen. Supt.—General Superintendent
Sales Mgr.—Sales Manager
Tankcar S. M.—Tankcar Sales Manager
Pur. Agt.—Purchasing Agent
Traf. Mgr.—Traffic Manager
Ch. Engr.—Chief Engineer
Supt.—Superintendent
Asst. Supt.—Assistant Superintendent
Ch. Chem.—Chief Chemist
Capacity—gallons per day

Bartlett Gasoline Co., 1801 S. Carson Ave., Tulsa, Okla.

J. H. McCoy, *Pres.* Dean E. Foster, *V. P.* and *Gen. Mgr.* H. R. Johnson, *Sec.* and *Treas.* Dean E. Foster *Ch. Engr.* and *Pur. Agt.* E. W. Melling, *Plant Supt.* 1 plant in Oklahoma. Capacity, 9,000.

Bayliss & Fasenmeyer, Titusville, Pa.

Plant in Pennsylvania. Capacity, 500.

Bell Brothers, Robinson, Ill.

William Bell, *Gen. Mgr.* J. M. Bell, *Supt.* George Leedy, Annapolis, Ill.; Virgil Cunningham, Flat Rock, Ill., *Plant Supts.* 1 plant in Illinois. Capacity, 25 gals.

Belridge Oil Co., 815 Edison Bldg., Los Angeles, Calif.

Burton E. Green, *Pres.* Frank H. Buck, H. L. Westbrook, F. B. Sutton, *V. P.s.* F. B. Sutton, *Sec.* H. L. Westbrook, *Treas.* C. E. Caleston, McKittrick, Calif., *Field Mgr.* W. C. Wickersham, *Pur. Agt.* Clyde H. Peter, *Ch. Engr.* John P. Loppini, Hershel W. Graves, *Plant Supts.* at McKittrick, Calif. Fred E. Amburn, Taft, Calif., *Plant Supt.* 2 plants in California. Capacity, 82,000.

Big Lake Oil Co., 223 Fourth Ave., Pittsburgh, Pa.

J. C. Trees, *Pres.* W. S. Hallahan, C. E. Beyer, A. B. Dally, Jr., *V. P.s.* W. E. Huston, *Sec.* and *Treas.* C. C. Hickle, Texon, Tex., *Plant Supt.* R. E. Johnson, *Pur. Agt.* J. C. Moore, *Ch. Chem.* 1 plant in Texas. Capacity, 50,000.

Blue Creek Oil & Gas Co., 207 Security Bldg., Charleston, W. Va.

George E. Thomas, *Pres.* D. T. McClure, *V. P.* G. E. Tribble, *Sec.* and *Treas.* G. W. McCamey, *Gen. Supt. Gaso. Plant.* G. E. Tribble, *Sales Mgr.* 1 plant in West Virginia. Capacity, 3,000.

Brenneman & MacDonnell, 922 Lima Trust Bldg., Lima, Ohio.

A. D. MacDonnell, *Agent.* E. R. Perfect, Oblong, Ill. *Plant Supt.* 2 plants in Illinois. Capacity, 1,400.

Buckeye Natural Gasoline Corp., 504 E. Archer, Tulsa, Okla.

C. C. Cartwright, *Pres.* W. P. Bateman, *V. P.* A. V. B. Candler, *V. P.* and *Gen. Mgr.* James T. Neal, *Sec.* Charles A. Meyer, *Treas.* E. M. Hughes, *Gen. Supt. Plant.* H. E. Heywood, *Pur. Agt.* M. J. Baker, *Ch. Chem.* J. E. Harris, *Ch. Engr.* 1 plant in Texas. Capacity, 15,000.

B-W Gasoline Co., Livingston, Tex.

Lyle West and J. O. Bergman, *Co-Partners* and *Mgrs.* 1 plant in Texas. Capacity, 4,000.

C

Cabot Carbon Co., 77 Franklin St., Boston, Mass.

Godfrey L. Cabot, *Pres.* R. G. Allen, Pampa, Tex.; Edmund Billings, *V. P.s.* Fred C. Fernald, *Sec.* Thomas D. Cabot, *Treas.* F. M. Neely, *Gen. Supt. Gaso. Plants.* O. M. Prigmore, Pampa, Tex., *Pur. Agt.* 2 plants in Texas. Capacity, 40,000.

Calumet Oil Co., 517 I. W. Hellman Bldg., Los Angeles, Calif.

J. E. Wallis, *Pres.* W. F. Stauton, Philip B. Kennedy, *V. P.s.* Irene Trelease, *Sec.* and *Treas.* 1 plant in California. Capacity, 1,000.

Canadian River Gas Co., Colorado Springs, Colo.

N. K. Moody, Tulsa, Okla., *Pres.* P. C. Spencer, New York, N. Y.; Albert R. Jones, Kansas City, Mo.; R. E. Wertz, Amarillo, Tex., *V. P.s.* George Baird, New York, N. Y., *Sec.* and *Treas.* Robert W. Hendee, Colorado Springs, Colo., *Gen. Mgr.* J. O. Shields, Colorado Springs, Colo., *Asst. Treas.* R. A. Ford, Amarillo, Tex., *Gen. Supt. Gaso. Plant.* L. B. Whitefield, Colorado Springs, Colo., *Pur. Agt.* J. H. Hallenberger, *Ch. Chem.* G. F. Brunston, Colorado Springs, Colo., *Ch. Engr.* L. W. Jackson, Channing, Tex., *Supt.* 1 plant in Texas. Capacity, 30,000.

Cannon Gasoline Co., Amarillo, Tex.

J. J. Hastings, *Pres.* J. B. Dooley, *Sec.* F. J. Storm, *V. P., Treas.* and *Pur. Agt.* Plant in Texas. Capacity, 5,000.

Carbide & Carbon Chemicals Corp., 30 East Forty-second St., New York, N. Y.

J. A. Rafferty, *Pres.* Dr. G. O. Curme, Jr.; H. E. Thompson; Dr. J. G. Davidson; J. W. McLaughlin; R. W. White, *V. P.s.* A. C. Cornell, *Sec.* P. F. Smith, *Treas.* R. N. Graham, *Gen. Supt. Gaso. Plants.* W. F. Reich, Jr., *Sales Mgr.* W. F. Ackerman, *Pur. Agt.* G. V. Scofield, *Ch. Chem.* C. S. Dunn, *Ch. Engr.* C. M. Stuter, Hastings, W. Va.; F. W. Hineline, Diamond, W. Va., *Plant Supts.* 2 plants in West Virginia. Capacity, 3,500.

Cargray Corp., 801 Amarillo Bldg., Amarillo, Tex.

D D. Harrington, *Pres.* L. R. Hagy, Stanley Marsh, *V. P.s.* Beaumont Stinnett, *Sec.* and *Treas.* I. Earl Nutter, *Gen. Supt. Gaso. Plant* and *Pur. Agt.* C. F. Free, Pampa, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 100,000.

Carnegie Natural Gas Co., 962 Frick Annex, Pittsburgh, Pa.

S. W. Meals, *Pres.* J. W. Hamilton, *Sec.* H. E. Jeffries, *Treas.* H. J. Hess, *Gen. Supt.* Plants in Pennsylvania and West Virginia. Capacity, 11,800.

Carpenter, M. A., Karns City, Pa.

Plant in Pennsylvania. Capacity, 200.

Carter Oil Co., The, National Bank of Tulsa Bldg., Tulsa, Okla.

J. J. Conry, *Pres.* F. W. Floyd, L. F. McCollum, L. G. Owen, *V. P.s.* F. M. Darrough, *Sec.* W. M. Barnhill, *Asst. Treas.* George E. Edgett, *Gen. Supt. Gaso. Plants.* H. F. Miller, *Sales Mgr.* J. R. Freeman, *Pur. Agt.* S. F. Mauney, Jr., *Ch. Chem.* I. S. Salnikov, *Ch. Engr.* A. E. Perry, Fittstown, Okla.; Clyde Randles, Seminole, Okla.; W. T. Mills, Seminole, Okla.; P. A. Ratliff, Cromwell, Okla., *Plant Supts.* 3 plants in Oklahoma. Capacity, 118,000.

Central States Production Corp., 700 Oklahoma Bldg., Tulsa, Okla.

Paul K. Sticelber, *Pres.* Weldon Smith, *V. P.* E. C. Brown, *Sec.* F. H. Hoyt, *Treas.* A. H. Burgess, *Gen. Supt.* M. V. Davies, Wetumka, Okla., *Plant Supt.* 1 plant in Oklahoma. Capacity, 2,500.

Chase Gasoline Co., Thistle Bldg., Sistersville, W. Va.

J. J. McKay, *Pres.* C. A. McKay, Tulsa, Okla., *V. P.* and *Sec.* Helen Boyers, *Treas.* 2 plants in Oklahoma. Capacity, 2,000.

Cities Service Oil Co., Bartlesville, Okla.

H. R. Straight, *Pres.* and *Gen. Mgr.* A. W. Ambrose, *V. P.* and *Asst. Gen. Mgr.* H. D. Frueauff, E. C. Murray, W. H. Merritt, *V. P.s.* C. E. Murray, *Sec.* L. A. Lynd, *Asst. Treas.* H. A. Ells, *Gen. Supt. Gaso. Plants.* S. B. Crooks, *Sales Mgr.* Harris Bateman, *Pur. Agt.* Dick Rodgers, Wichita, Kans.; C. F. Fischer, Sasakwa, Okla., *Dist. Supts.* C. E. Aydelotte, Hamilton, Kans.; A. S. Corey, Haven, Kans.; D. G. Thoes, Wichita, Kans.; G. F. Downs, Taliant, Okla.; W. H. Tillock, Seminole, Okla.; I. L. Fletcher, Odessa, Tex.; L. L. Grubb, Seminole, Okla.; V. F. Hobart, Sasakwa, Okla.; J. F. Hodge, Seminole, Okla.; R. L. Mitchell, Konawa, Okla.; J. L. Sperry, Pampa, Tex.; L. A. Webster, Burrton, Kans.; C. E. Powell, Wanette, Okla.; J. A. Bowler, Madison, Kans.; G. B. Wooster, Wewoka, Okla.; W. H. Yingling, Arkansas City, Kans., *Plant Supts.* 16 plants in Oklahoma, Kansas and Texas. Capacity, 338,500.

Clinger Oil & Gas Co., Tidioute, Pa.

George Clinger and W. F. Clinger, *Partners.* A. E. Merkle, *Sec.* J. E. Peterson, Tidioute, Pa.; Charles

M. Nason, Trumans, Pa., *Plant Supts.* 2 plants in Pennsylvania. Capacity, 2,000.

Clymore Co., Inc., The, 1204 National Bldg., San Antonio, Tex.

Garland Clymore, *Pres.* R. S. Wyrick, Refugio, Tex., *V. P.* B. S. Fenlaw, *Sec.* R. C. Willett, *Treas.* V. A. Goss, Refugio, Tex., *Ch. Chem.* R. S. Wyrick, *Plant Supt.* 1 plant in Texas. Capacity, 30,000.

Cochran, John G., & Co., 676 W. Main, Sheffield, Pa.

John G. Cochran, *Mgr.* J. C. Curtin, Sheffield, Pa., *Plant Supt.* 1 plant in Pennsylvania. Capacity, 1,100.

Coline Gasoline Corp., Railway Exchange Bldg., Chicago, Ill.

J. H. Keefe, *Pres.* F. C. Ripley, Los Angeles, Calif.; H. L. Briggs, Oklahoma City, Okla., *V. P.s.* H. E. Moulton, *Gen. Supt.* D. R. Van Gorder, Box 381, Torrance, Calif.; J. L. Black, Route 1, Box 411, Ventura, Calif., *Plant Supts.* Plants in California. Capacity, 30,000.

Coltexo Corp., 41 E. Forty-second St., New York, N. Y.

F. F. Curtze, *Pres.* A. F. Kitchel, *V. P.* R. L. Carr, *Sec.* George L. Bubb, *Treas.* W. E. Reardon, *Gen. Supt. Gaso. Plants* and *Pur. Agt.* J. P. Cox, Lefors, Tex.; H. E. Means, Rodessa, La., *Plant Supervisors.* 2 plants in Texas and Louisiana. Capacity, 80,000.

Columbian Gasoline Corp., Monroe, La.

F. F. Curtze, *Pres.* Reid L. Carr, *Sec.* George L. Bubb, *Treas.* W. E. Reardon, *Gen. Supt.* W. H. Anders, *Sales Mgr.* H. J. Hunter, *Ch. Chem.* A. T. Givens, *Ch. Engr.* E. O. Nolan, Shamrock, Tex., *Plant Supt.* Plant in Texas. Capacity, 5,000.

Consolidated Gasoline Co., 713 Ave. D, Cisco, Tex.

A. S. Hickok, Toledo, Ohio, *Pres.* Walter G. Kirkbride, Toledo, Ohio, *V. P.* C. F. Eisenhour, Toledo, Ohio, *Sec.* A. S. Hickok, *Treas.* R. L. Pousler, *Gen. Supt.* H. M. Condley, *Sales Mgr.* and *Pur. Agt.* Lou Horn, Eastland, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 12,000.

Continental Oil Co., Continental Bldg., Ponca City, Okla.

Dan Moran, *Pres.* Walter Miller, *V. P. Mfg.* Harry J. Kennedy, *V. P. Mktg.* W. W. Bruce, *Exec. V. P.* J. G. Dyer, *V. P. Prod.* G. F. Smith, *Sec.* and *Treas.* R. A. Carter, *Gen. Supt. Gaso. Plants.* O. B. Lloyd, *Sales Mgr.* W. H. O'Connor, *Pur. Agt.* B. H. Lincoln, *Ch. Chem.* M. E. Clawson, *Ch. Engr.* Gill Boatman, Billings, Okla.; A. E. Crouse, Basile, La.; C. R. Freel, Basile, La.; J. N. Garritson, Hobbs, N. M.; R. G. Kennelly, Lance Creek, Wyo.; R. A. Noah, Electra, Tex.; C. L. Ritter, Basile, La.; J. E. Storts, Lake Charles, La., *Plant Supts.* 6 plants in New Mexico, Wyoming, Louisiana, Oklahoma and Texas. Capacity, 122,000.

Cook Oil Lease, Kellettville, Pa.

E. S. Collins, *Owner.* F. R. Klinestiver, Nebraska, Pa., *Mgr.* and *Treas.* J. E. Flynn, *Sec.* F. Lee Dunkle, Mayburg, Pa., *Ch. Engr.* and *Plant Supt.* 1 plant in Pennsylvania, Capacity, 1,500.

Cosden Petroleum Corp., 1700 Electric Bldg., Fort Worth, Tex.

Henry Zweifel, *Chm. Bd.* and *Pres.* Milton C. Zaidenberg, *V. P.* J. W. Lane, *Sec.* and *Treas.* Henry Zweifel, *Gen. Supt. Ref.* E. W. Potter, *Gen. Supt. Ref.* J. L. Le Bleu, *Asst. Supt.* Harold Bottomley, *Ch. Chem.* Maloy Stevenson, *Ch. Engr.* Ben C. Ammann, *Pur. Agt.* Plant in Texas. Capacity, 6,000.

Cowan Oil & Refining Co., 534 Bartlett Bldg., Los Angeles, Calif.

John A. Arnold, *Pres.* Arnold Holden, *V. P.* W. G. Howard, *Sec.* and *Treas* Plant in California. Capacity, 60,000.

Crosbie, J. E., Inc., 1810 National Bank of Tulsa Bldg., Tulsa, Okla.

W. B. Moran, *Pres.* C. H. Sweet, *V. P.* M. E. Church, *Sec.* C. H. Sweet, *Treas.* A. W. Dwen, *Gen. Supt.* D. B. Young, Fittstown, Okla., *Plant Supt.* 1 plant in Oklahoma. Capacity, 50,000.

D

Danciger Oil & Refineries, Inc., W. T. Waggoner Bldg., Fort Worth, Tex.

Dan Danciger, *Pres.* Joe Danciger, A. Danciger, Jack Danciger, *V. P.s.* J. E. Vaeth, *Sec.* Joe Danciger, *Treas.* W. D. McIntyre, *Gen. Supt.* G. B. Magruder, Jr., *Pur. Agt.* Guy Barrett, Danciger, Tex.; F. L. Abraham, Box 278, Lefors, Tex., *Supts.* Plants in Texas. Capacity, 60,000.

Darby Lynde Co., The, 1008 Philtower Bldg., Tulsa, Okla.

J. F. Darby, *Pres.* C. F. Lynde, *V. P.* S. B. Griffith, *Sec.* William Hendrick, *Treas.* J. R. Gilbert, Electra, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 3,000.

Daugherty, C. R., & Co., Willard Hotel, Butler, Pa.

C. R. Daugherty and M. G. Daugherty, *Partners.* O. R. Daugherty, *Mgr.* H. C. Connelly, *Supt.* 1 Plant in Texas. Capacity, 70.

Daugherty, C. R., Co., Willard Hotel, Butler, Pa.

1 plant in Pennsylvania. Capacity, 25.

Daugherty, M. G. and C. R., Co., Willard Hotel, Butler, Pa.

1 plant in Pennsylvania. Capacity, 30.

Deep Oil Development Co., 612 City National Bank Bldg., Wichita Falls, Tex.

J. T. Harrell, *Pres.* Joe A. Kell, *V. P.* John W. Thomas, *V. P.* and *Gen. Mgr.* John C. Coffey, *Sec.* and *Treas.* J. F. Cox., *Gen. Supt.* M. H. Montfort, Box 572, Archer City, Tex.; O. H. Stanbrough, Rt. 1, Iowa Park, Tex., *Supts.* Plants in Texas. Capacity, 8,000.

Deep Rock Oil Corp., Atlas Life Bldg., Tulsa, Okla.

H. N. Greis, *Trustee.* R. K. Huey, *Gen. Supt.* B. L. Majewski, *Sales Mgr.* R. G. Martin, *Pur. Agt.* B. C. Frichot, *Ch. Chem.* R. G. Davis, *Ch. Engr.* 1 plant in Oklahoma. Capacity, 1,000.

Del Rey Oil & Gas Co., Washington St. and Beach Ave., Venice, Calif.

F. A. E. Lowell, *V. P.* A. E. Schiltz, *Sec.* H. A. Wohlenberg, *Asst. Sec.* A. Pfeil, *Ch. Chem.* F. A. E. Lowell, *Ch. Engr.* 1 plant in California. Capacity, 60,000.

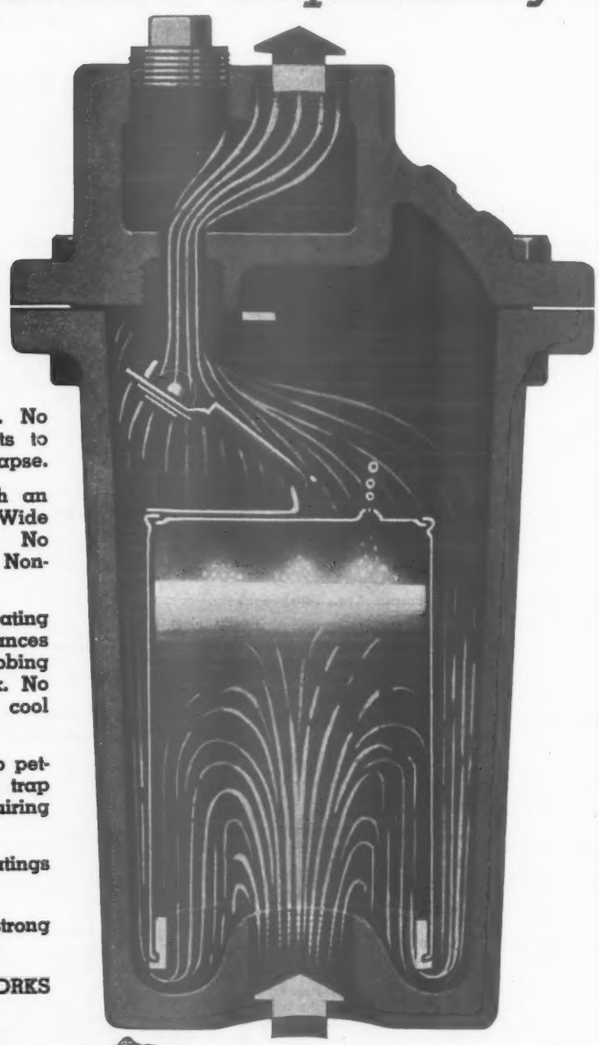
Del Rey Petroleum Co., West Bldg., Houston, Tex.

R. R. Dean, *Pres.* William D. Moorer, *V. P.* H. S. Medlin, *Sec.* and *Treas.* R. R. Dean, *Gen. Supt.* L. E. Cooper, Liberty, Tex., *Plant Supt.* 1 plant in Texas.

Dempseytown Gas Co., 78 Mill St., Port Allegany, Pa.

C. I. Crippen, *Pres.* J. H. Isherwood, C. R. Beddows, *V. P.s.* J. C. Forsyth, *Sec.* C. R. Beddows, *Treas.* E. H. Crippen, *Gen. Supt. Gaso. Plants.* 1 plant in Pennsylvania. Capacity, 265.

5 Reasons for Superiority!



1. Only two moving parts. No sliding frictional contacts to wear or stick. Nothing to collapse.

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Desdemona Gasoline Co. of Texas, 504 Capps Bldg., Fort Worth, Tex.

W. F. MacDermott, *Pres.* Floyd Evans, *V. P.* M. B. Todd, *Sec.* W. F. MacDermott, *Treas.* D. H. Moss, *Gen. Supt.* 1 plant in Texas. Capacity, 3,000.

Devonian Oil Co., 1705 National Bank of Tulsa Bldg., Tulsa, Okla.

A. W. Leonard, *Pres.* L. C. Ritts, *V. P.* and *Treas.* George D. Foster, *Sec.* E. S. Calvert, *Gen. Supt. Gaso. Plants.* H. R. Dean, *Pur. Agt.* W. A. Fosburgh, *Ch. Chem.* and *Plant Supt.* 1 plant in Oklahoma. Capacity, 20,000.

Dinsmoor & Co., St. Marys, W. Va.

W. P. Kerwood, Jr., *Pres.* Denton Dinsmoor, *Sec.* M. B. Dinsmoor, *Treas.* D. H. Israel, *Plant Supt.* 1 plant in West Virginia. Capacity, 360.

Duval Gasoline Co., Second National Bank Bldg., Houston, Tex.

J. W. Hovey, *Pres.* John W. Blue, *V. P.* Lee E. Loeffler, *Sec.* and *Treas.* D. S. Wallace, Benavides, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 20,000.

E

East Texas Refining Co., Tower Petroleum, Dallas, Tex.

F. W. Burford, *Pres.* John J. Thomas, C. C. Herndon, *V. P.s.* W. K. Cottrell, *Sec.* and *Treas.* John J. Thomas, *Gen. Supt. Gaso. Plant.* J. B. Cashell, *Sales Mgr.* W. M. Bisett, *Pur. Agt.* C. N. Watts, Rodessa, La., *Plant Supt.* 2 plants in Louisiana and Arkansas. Capacity, 83,000.

Eason Oil Co., Bass Bldg., Enid, Okla.

T. T. Eason, *Pres.* L. D. Hiuman, *V. P.* T. W. Eason, *Sec.* and *Treas.* B. T. Widener, *Gen. Supt.* R. H. Rowland, *Sales Mgr.* A. C. Hatton, *Pur. Agt.* 1 plant in Oklahoma.

Edwards, Eddie O., R.F.D. 2, Titusville, Pa.

Plant in Pennsylvania. Capacity, 170.

Eiswerth, Hefren & Co., Inc., Arthur, Pa.

F. M. Baker, *Pres.* W. J. Ochs, *V. P.* J. F. Eiswerth, *Treas.* Plant in Pennsylvania. Capacity, 400 (shut down).

Ellenberger & Sons, Wm. J., R.F.D. 1, Karns City, Pa.

Plant in Pennsylvania. Capacity, 300.

Elliott Bros., R.F.D. 2, Chicora, Pa.

Plant in Pennsylvania. Capacity, 500.

El Paso Natural Gas Co., Bassett Tower, El Paso, Tex.

Paul Kayser, *Pres.* C. C. Cragin, A. L. Forbes, Jr., *V. P.s.* J. E. Franey, *Sec.* and *Treas.* A. L. Forbes, Jr., *Gen. Supt. Gaso. Plant.* H. A. Jones, *Pur. Agt.* A. A. Cohn, *Ch. Chem.* L. A. Beaird, Jal, N. M., *Plant Supt.* 1 plant in New Mexico. Capacity, 27,000.

Equitable Gas Co., 435 Sixth Ave., Pittsburgh, Pa.

F. R. Phillips, *Pres.* F. F. Schauer, *V. P.* and *Gen. Mgr.* W. B. Carson, *Sec.* C. J. Braun, Jr., *Treas.* Judson Bonsall, *Supt. of Comp. Stas.* C. W. Lepper *Pur. Agt.* F. B. Saunders, *Gen. Auditor.* George M. Myers, Rogersville, Pa.; P. E. Jackson, Clarksville, Pa., *Plant Supts.* 2 plants located in Pennsylvania. Capacity, 12,000.

F

Field, O. C., Gasoline Corp., 944 Wilshire Blvd., Los Angeles, Calif.

O. C. Field, *Pres.* J. C. Burks, W. G. Metson, *V. P.s.* Newton J. Hale, *Sec.* and *Treas.* H. E. Everett, *Sales Mgr.* A. L. Henrickson, Huntington Beach, Calif., *Plant Supt.* 2 plants in California. Capacity, 70,000.

Fleming, J. E., 623 N. Perry, Titusville, Pa.

J. E. Fleming, *Owner.* George Miller, Grand Valley, Pa., *Plant Supt.* C. W. Nobles, *Ch. Engr.* 1 plant in Pennsylvania. Capacity, 500.

Forest Chemical Co., Sheffield, Pa.

C. R. McNeal, *Pres.* and *Treas.* C. F. McNeal, *V. P.* and *Sec.* Plant in Pennsylvania. Capacity, 300 (shut down).

G

General American Gasoline Co., Republic Bank Bldg. Dallas, Tex.

J. W. Gilliland, *Pres.* M. E. Wilson, *V. P.* A. H. Meadows, *Sec.* and *Treas.* C. W. Warwick, *Gen. Supt. Gaso. Plants.* F. A. Williams, *Sales Mgr.* J. D. Brown, *Pur. Agt.* R. S. Hancock, Gladewater, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 20,000.

General Petroleum Corp. of California, 1003 Higgins Bldg., Los Angeles, Calif.

A. L. Weil, *Pres.* R. A. Sperry, B. E. Parsons, S. J. Dickey, A. H. De Friest, E. L. Adams, *V. P.s.* D. W. Woods, *Sec.* W. Cunningham, *Treas.* R. C. Wheeler, *Mgr. Gas Dept.* A. H. De Friest, *Sales Mgr.* G. F. Olsen, *Mgr. Laboratories.* E. W. Beck, *Pur. Agt.* V. F. Grace, *Mgr. Engr. Dept.* P. S. Magruder, Vernon, Calif., *Gen. Supt. Plants.* 5 plants in California. Capacity, 200,000 (20,000 shut down).

Gilmore Dabney, Inc., 2423 E. Twenty-eighth St., Los Angeles, Calif.

Earl B. Gilmore, *Pres.* Milton H. Philleo, *V. P.* C. S. Beesemyer, *Sec.* and *Treas.* H. L. Eggleston, *Gen. Supt. Gaso. Plant.* J. L. Coates, *Sales Mgr.* D. H. F. McPherson, *Pur. Agt.* L. R. Schandoney, *Ch. Chem.* E. Newman, *Ch. Engr.* W. Shellshear, Long Beach, Calif., *Plant Supt.* 1 plant in California. Capacity, 30,000.

Glacier Production Co., Electric Bldg., Butte, Mont.

F. M. Kerr, *Pres.* F. W. Bird, *V. P.* and *Gen. Mgr.* S. P. Hogan, *Sec.* J. R. Thomas, *Treas.* E. M. Parkin, *Gen. Supt. Gaso. Plant.* W. T. Jackson, *Pur. Agt.* H. H. Cochrane, *Ch. Engr.* 1 plant in Montana. Capacity, 16,000.

Gladewater Gasoline Co., P. O. Box 777, Gladewater, Tex.

C. R. Starnes, *Pres.* Glenn J. Smith, *V. P.* E. L. Ames, *Sec.* and *Treas.* H. G. Ken, *Ch. Chem.* W. G. Maness, P. O. Box 777, Gladewater, Tex., *Plant Supt.* Plant in Texas. Capacity, 10,000.

Glen Rose Gasoline Co., 311 National Bank of Tulsa Bldg., Tulsa, Okla.

M. H. Marr, *Pres.* Paul M. Raigorodsky, *V. P.* Paul Schaefer, *Gen. Supt.* Paul M. Raigorodsky, *Sales Mgr.* Paul Schaefer, *Pur. Agt.* J. C. Birdsall, P. O. Box 2, Rodessa, La., *Plant Supt.* Plant in Louisiana. Capacity, 30,000.

Gould & Son (Nancy E.), R.F.D. 6, Butler, Pa.

Floyd B. Gould, *Ch. Engr.* and *Plant Supt.* 1 plant in Pennsylvania. Capacity, 3.

Graham Oil & Gas Co., Graham, Tex.

Philip Wiseman, *Pres.* Harvey S. Mudd, L. W. Wickes, *V. P.s.* G. R. Paull, *Sec.* and *Treas.* G. R.

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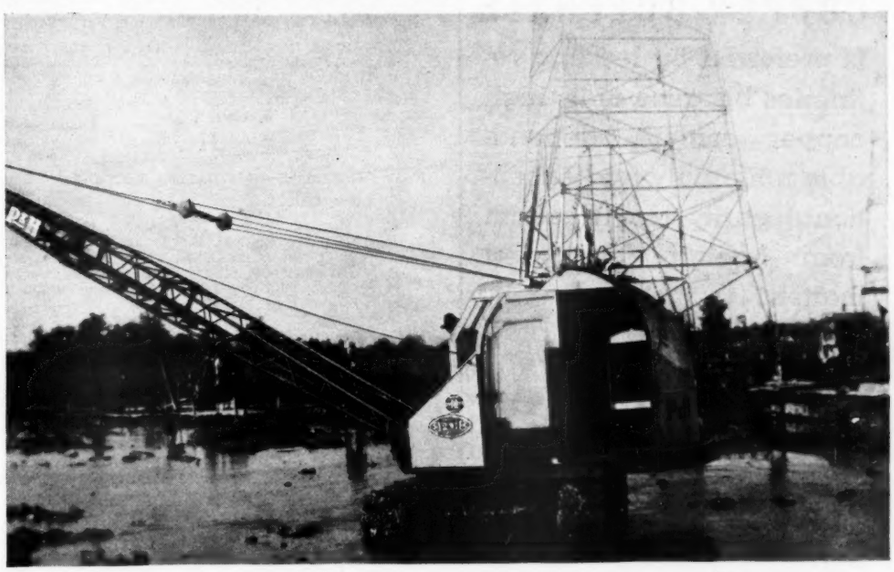

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Paull, *Gen. Supt.* W. H. Anders, *Sales Mgr.* F. F. Jones, *Ch. Engr.* Plant in Texas. Capacity, 8,000.

Great National Oil Corp., 715 City Bank Bldg., Shreveport, La.

J. T. Means, Jr., *Pres.* C. R. Braswell, *V. P.* Miss E. L. Cade, *Sec.* and *Treas.* Plant in Louisiana. Capacity, 15,000.

Gregg-Tex Gasoline Corp., 401 Glover-Crim Bldg., Longview, Tex.

Clark Sample, *Pres.* Charles Cobb, Jr., Marshall, Tex., *V. P.* W. Bruner Smith, *Sec.* Clark Sample, *Treas.* C. E. Wharton, *Gen. Supt.* C. W. Miller, *Ch. Chem.* J. R. Epperson, *Ch. Engr.* H. J. DeLatin, *Plant Supt.* 1 plant in Texas. Capacity, 125,000.

Grimes, Otha H., 902 Kennedy Bldg., Tulsa, Okla.

R. F. Chisholm, Mount Pleasant, Mich., *Gen. Supt. Gaso. Plants.* R. H. Beattie, T. L. Fleming, F. J. Little, *Plant Supts.* at Mount Pleasant, Mich. Ray Murphy, Wetumka, Okla., *Plant Supt.* 4 plants in Michigan and Oklahoma. Capacity, 27,500.

Grimes, Otha H. and Neal, Roy O., Kennedy Bldg., Tulsa, Okla.

A. L. Cash, *Gen. Supt. Plant* at Drumright, Okla. Otha H. Grimes, *Sales Mgr.* Roy O. Neal, *Pur. Agt.* and *Ch. Engr.* 1 plant in Oklahoma. Capacity, 4,200.

Grimes, Charles W. and Otha H., 902 Kennedy Bldg., Tulsa, Okla.

Charles W. Grimes and Otha H. Grimes. *Partners.* Joe Gibson, Weleetka, Okla.; W. O. Kinsey, Okemah, Okla., *Plant Supts.* 2 plants in Oklahoma. Capacity, 8,000.

Gulf Oil Corp., First National Bank Bldg., Tulsa, Okla.

Rush Greenslade, *V. P.* D. B. Catterlin, *Asst. Sec.* C. B. Clothier, *Asst. Treas.* S. G. Sanderson, *Gen Supt.* H. F. Brindel, *Supt Gaso. Plants.* V. C. Fuller. *Pur. Agt.* 6 plants in Oklahoma. Capacity, 73,200.

Gulf Refining Co., Box 1166, Pittsburgh, Pa.

J. F. Drake, *Pres.* Charles B. Buerger, H. A. Gidney, *V. P.s.* David Proctor, *Sec.* J. E. Nelson, *Treas.* C. T. Marsh, *Pur. Agt.* Plants in Arkansas, Louisiana, and Texas. Capacity, 62,000.

H

Hanlon Gasoline Co., 718 National Bank of Tulsa Bldg., Tulsa, Okla.

E. I. Hanlon, *Pres.* J. H. Boyle, D. E. Buchanan, *V. P.* J. H. Boyle, *Sec.* and *Treas.* C. E. Wharton, *Gen. Supt. Gaso. Plant.* R. E. Miller, *Sales Mgr.* R. W. Webber, *Ch. Chem.* A. A. Hardee, Breckenridge, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 60,000.

Hanlon Gasoline Corp. of Texas, 718 National Bank of Tulsa Bldg., Tulsa, Okla.

E. I. Hanlon, *Chm. Bd.* J. H. Boyle, *Pres.* D. E. Buchanan, *V. P.* J. H. Boyle, *Sec.* and *Treas.* R. E Miller, *Sales Mgr.* C. E. Benham. *Ch. Chem.* C. E. Wharton, Gladewater, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 150,000.

Hapgood, Roswell T., & Co., 207 Security Bldg., Charleston, W. Va.

Partnership. G. E. Tribble, *Sec.* and *Treas.* D. T. McClure, *Gen. Supt. Gaso. Plants.* G. E. Tribble, *Sales Mgr.* D. T. McClure, Belle, W. Va.; Wiley Price, Cedar Grove, W. Va., *Plant Supts.* 1 plant in West Virginia. Capacity, 3,500.

Haskell Bros., Pleasantville, Pa.

William A. Haskell, *Supt.* Plant in Pennsylvania. Capacity, 100.

Haskell, Roth & Bayliss, Titusville, Pa.

George E. Bayliss, *Supt.* Plant in Pennsylvania. Capacity, 1,000.

Henderson, F. C. and E. P., 2202 Alamo National Bldg., San Antonio, Tex.

Co-partnership. C. A. Seiple, Sanford, Tex., *Plant Supt.* F. C. Hall, *Sales Mgr.* and *Pur. Agt.* W. R. Sever, *Ch. Chem.* 1 plant in Texas. Capacity, 50,000.

Hercules Gasoline Co., 530 Giddens-Lane Bldg., Shreveport, La.

E. R. Ratcliff, *Pres.* J. Pat Beaird, *V. P.* E. E. De Back, *Gen. Supt.* W. F. Hyde, *Mgr.* M. M. Dworkins, *Ch. Chem.* W. T. Bryant, Kilgore, Tex.; W. R. Brown, Kilgore, Tex., *Supts.* Plant in Texas. Capacity, 40,000.

Hirt-MacDermott & Co., 504 Capps Bldg., Fort Worth, Tex.

W. F. MacDermott, *Pres.* and *Treas.* Floyd Evans, *V. P.* M. B. Todd, *Sec.* 1 plant in Texas. (Shut down.)

Hokom, John, Oil & Gasoline Co., Ltd., 860 N. Highland Ave., Los Angeles, Calif.

J. Hokom, *Pres.* C. M. Hokom, *V. P.* John H. Hokom, *Sec.* H. Finlay, *Treas.* M. O. White, *Gen. Supt. Gaso. Plant.* 1 plant in California.

Honolulu Oil Corp., 215 Market St., San Francisco, Calif.

A. C. Mattei, *Pres.* W. M. Alexander, L. A. Cranson, W. P. Roth, A. P. Welch, *V. P.s.* R. H. Wright, *Sec.* W. P. Roth, *Treas.* J. G. Walling, *Asst. Sec.* and *Asst. Treas.* O. E. Cunningham, Taft, Calif, *Pur. Agt.* W. H. Kraft, *Ch. Chem.* R. G. Rogers, *Ch. Engr.* E. W. Adams, *Ch. Geol.* H. S. Stark, Taft, Calif.; C. K. Holt, Bakersfield, Calif.; A. G. Fisk, Goleta, Calif.; B. S. Smith, Thermopolis, Wyo., *Plant Supts.* P. F. Brown, Midland, Tex., *Mgr.* (Taft, Calif., is only gasoline plant location). 2 plants in California. Capacity, 60,000.

Hope Construction & Refining Co., 545 William Penn Way, Pittsburgh, Pa.

L. L. Tonkin, *Pres.* J. C. Chisler, *V. P.* S. E. W. Burnside, *Sec.* J. C. Chisler, *Treas.* Charles C. Reed, *Gen. Supt.* R. W. Miller, *Sales Mgr.* Fred A. Benkert, *Pur. Agt.* John A. Clark, *Asst. Supt.* O. O. Perry, Clarksburg, W. Va., *Supt.* Walter O. Sayre, Bristol, W. Va.; Ernest Wilson, Corton, W. Va.; Clyde J. Robinson, Clarksburg, W. Va.; Okey G. Crim, Hastings, W. Va.; J. F. Villers, Valley Chapel, W. Va.; Walter O. Sayre, Salem, W. Va.; Charles Johnson, Waverly, W. Va.; George R. Gibson, Imperial, Pa.; William E. Cornell, Rinards Mills, Ohio, *Foremen.* A. C. Perry, Pittsburgh, Pa., *Supt.* Henry W. Hoffman, *Head Engr.* Jesse A. Eddy, Brave, Pa., *Foreman.* 10 plants in Pennsylvania, West Virginia and Ohio. Capacity, 116,300.

Huber Corp., J. M., Borger, Tex.

H. W. Huber, *Pres.* H. W. Price, *V. P.* Walter David, *Sec.* Walter Huber, *Treas.* D. H. Matthews, *Gen. Supt.* R. B. Rudgely, *Pur. Agt.* G. Moore, *Ch. Engr.* D. H. Matthews, Borger, Tex., *Plant Supt.* Plant in Texas. Capacity, 3,000.

Humble Oil & Refining Co., Humble Bldg., Houston, Tex.

H. C. Wiess, *Pres.* John R. Suman, John Anderson, L. T. Barrow, E. E. Townes, *V. P.s.* J. S. Crate, *Sec.* R. L. Blaffer, *Treas.* J. O. Sue, *Gen. Supt. Gaso. Plants.* B. H. Brown, *Sales Mgr.* F. A. Watts, *Pur. Agt.* C. E. Webber, *Ch. Chem.* F. G. Noble, *Ch. Engr.* R. L. McAdoo, London plant; F. V. LaFayette, Kilgore plant; W. A. Hutsell, American plant, *Supts.* at Overton, Tex. M. A. Mills, Neches, Tex.; W. J. McDougal, Conroe, Tex.; R. W. Beatty, Dickinson, Tex.; H. P. Elwood, Bellville, Tex.; J. E. Clayton, Corpus Christi, Tex.; J. A. Lee, Bloomington, Tex.; A. L. Spencer, Breckenridge, Tex.; J. S. Smith, Houston, Tex.; Joe Bishop, Danciger, Tex.; *Plant Supts.* 11 plants in Texas. Capacity, 159,200,000,000 cu. ft. gas.

I

Indian Territory Illuminating Oil Co., Masonic Bldg., Bartlesville, Okla.

Burdette Blue, *Pres.* R. L. Morton, A. V. Hoenig, R. L. Gordon, *V. P.s.* E. B. Emenhiser. *Sec.* C. H. Caldwell, *Treas.* C. M. Taylor, *Pur. Agt.* F. Allen, *Ch. Chem.* M. J. Kirwan, *Ch. Engr.* C. D. McReynolds, H. P. Wingo, D. Godsey, *Plant Supts.* at Oklahoma City, Okla. 5 plants in Oklahoma. Capacity, 100,000.

Inglewood Gasoline Co., 816 West Fifth St., Los Angeles, Calif.

E. H. Bashaw, *Pres.* and *Treas.* Clarence H. Evans, *V. P.* William E. Butler, *Sec.* Karl G. Steinbeck, *Plant Supt.* 1 plant in California. Capacity, 4,000.

Italo Petroleum Corp. of America, 391 Sutter St., San Francisco, Calif.

J. W. Pauson, *Pres.* A. J. Scampini, *First V. P.* R. A. Earle, *Second V. P.* E. P. Hardenbergh, *Asst. Treas.* and *Comptroller.* R. J. Sunderhauf, *Sec.* Hugh K. McKevitt, *Treas.* R. A. Earle, *Gen. Supt. Gaso. Plant.* Glenn Fisher, Coalinga, Calif., *Plant Supt.* 1 plant in California. Capacity, 300.

J

Jennings Bros. Co., E. H., 608 Columbia Bldg., Pittsburgh, Pa.

R. G. Jennings, *Pres.* E. D. Jennings, *V. P.* E. H. Jennings, *Sec.* R. G. Jennings, *Treas.* Plants in Pennsylvania. Capacity, 2,250.

K

Kansas Power & Light Co., The, 808 Kansas Ave., Topeka, Kans.

D. E. Ackers, *Pres.* C. E. Brock, Salina, Kans.; E. D. Bell, Abilene, Kans., *V. P.s.* H. E. Johnson, St. Louis, Mo., *Sec.* and *Treas.* C. H. Smith, McPherson, Kans. *Gen. Supt. Gaso. Plants.* I. S. Stewart. *Pur. Agt.* V. M. Gustafson, McPherson, Kans., *Ch. Chem.* J. W. White, Salina, Kans., *Ch. Engr.* R. B. McLaughlin, McPherson, Kans.; Wayne Austin,

Medicine Lodge, Kans., *Plant Supts.* 2 plants in Kansas. Capacity, 20,000.

Kern-St. Helens Properties (A Partnership), 1031 S. Broadway, Los Angeles, Calif.

R. W. Stephens, Charles Drader, F. M. Ziegler, A. P. McEachern, *Management Committee.* M. F. Dolan, *Sales Mgr.* C. W. Spark, *Ch. Chem.* H. C. Drader, *Pur. Agt.* C. Z. Webb, *Ch. Engr.* J. A. Stotts, Bakersfield, Calif.; G. C. Sproule, Montebello, Calif., *Plant Supts.* 2 plants in California. Shut down.

Kewanee Oil Co., 2317 Fidelity-Phila. Trust Bldg., Philadelphia, Pa.

William M. Potts, *Pres.* R. B. Ashenfelter, *Sec.* and *Treas.* F. B. Howland, *Gen. Mgr.* T. B. Steele, Robinson, Ill., *Plant Supt.* Plant in Illinois. Capacity, 300.

L

La Salle Petroleum Co., 612 Wright Bldg., Tulsa, Okla.

W. J. Schnur and Phil D. Williams, *Trustees.* F. A. Jamieson, *Sales Mgr.* William J. Howard, *Ch. Chem.* James D. Riddle, Burkburnett, Tex., *Plant Supt.* 1 plant in Texas (shut down).

Lisbon Gasoline Co., Inc., 229 Ricou-Brewster Bldg., Shreveport, La.

O. J. Dykes, *Pres.* D. W. Harris. *V. P.* T. J. Heard, *Sec.* B. R. Muirhead, *Treas.* D. L. Edmonson, *Gen. Supt. Gaso. Plants.* 2 plants in Texas. Capacity, 60,000.

Lomita Gasoline Co., Box 851, Long Beach, Calif.

C. M. Cohen, *Pres.* A. A. Jergins, T. A. Campbell, *V. P.s.* F. S. Wade, *Sec.* and *Treas.* L. V. Cassaday, *Gen. Supt.* and *Sales Mgr.* J. Bucklin, *Pur. Agt.* T. A. Campbell, *Ch. Engr.* J. H. Clark, Box 851, Long Beach, Calif.; M. S. Hubbell, Route 2, Box 522, Bakersfield, Calif., *Supts.* Plants in California. Capacity, 90,000.

Lone Star Gas Co., 1915 Wood St., Dallas, Tex.

L. B. Denning, *Pres.* R. A. Crawford, D. A. Huley, E. F. Schmidt, *V. P.s.* D. L. Cobb, *Sec.* and *Treas.* A. F. Garrett, *Sales Mgr.* B. R. Newbery, *Pur. Agt.* J. R. Jarvis, *Gen. Supt. Gaso. Plants.* F. H. Townsend, Gordon, Tex.; H. C. Wells, Hollis, Okla.; J. R. Francis, Cisco, Tex.; J. M. Phillips, Petrolia, Tex.; J. M. Kindle, Trinidad, Tex., *Plant Supts.* 7 plants in Texas and Oklahoma. Capacity, 79,000.

Lone Star Gasoline Co., 1915 Wood St., Dallas, Tex.

L. B. Denning, *Pres.* R. A. Crawford, D. A. Huley, E. F. Schmidt, *V. P.s.* D. L. Cobb, *Sec.* and *Treas.* J. R. Jarvis, *Gen. Supt. Gaso. Plants.* A. F. Garrett, *Sales Mgr.* B. R. Newbery, *Pur. Agt.* Harry Wheeldon, Ranger, Tex.; J. A. Bates, Breckenridge, Tex., *Plant Supts.* 3 plants in Texas. Capacity, 116,500

Los Nietos Producing & Refining Co., Ltd., 714 W. Olympic Blvd., Los Angeles, Calif.

C. E. Doheny, *Pres.* Olin Wellborn, III, C. W. Smith, Robert S. Lytle, *V. P.s.* G. W. Johnson, Jr., *Sec.* Olin Wellborn, III, *Treas.* W. H. Pierce, *Pur. Agt.* Harry L. Wolfe, *Ch. Chem.* George L. Thompson, Avenal, Calif., *Plant Supt.* 1 plant in California. Capacity, 140,000.

Louisiana Iron & Supply Co., 2925 Mansfield Road, Shreveport, La.

Sam Y. Dorfman, *Pres.* Joe Gold, Mrs. Minnie Goldman, *V. P.s.* Sam Sklar, *Sec.* and *Treas.* G. R. Perry, *Gen. Supt.* P. R. Walker, *Pur. Agt.* Plants located in Arkansas. Capacity, 6,000.

Louisville Gas & Electric Co., 311 W. Chestnut St., Louisville, Ky.

T. B. Wilson, *Pres.* A. W. Lee, *V. P.* J. J. McKenna, *Sec.* J. A. Yunker, *Gen. Supt.* G. Davies, *Pur. Agt.* H. D. Robb, Winchester, Ky., *Supt.* Plant in Kentucky. Capacity, 1,500.

Mc

McBride, W. C., Inc., 1226 Olive St., St. Louis, Mo.

B. O. Mahaffey, *Pres.* C. F. Buchner, *V. P.* E. R. Christman, *Sec.* and *Treas.* J. B. Crisman, *Gen. Supt. Gaso. Plant.* H. L. Crisman, *Ch. Engr.* B. R. Baker, Avant, Okla., *Plant Supt.* 1 plant in Oklahome. Capacity, 1,500.

M

Magnolia Petroleum Co., Magnolia Bldg., Dallas, Tex.

D. A. Little, *Pres.* L. S. Sinclair, M. J. McLaughlin, W. H. Francis, C. L. Gladden, Fred M. Lege, Jr., J. L. Latimer, J. W. Newton, *V. P.s.* G. L. Tate, *Sec.* W. L. Holmes, *Treas.* R. D. Hanley, *Gen. Supt. Gaso. Plants.* George Miller. *Sales Mgr.* J. P. David, *Pur. Agt.* H. L. Baker, Jr., *Ch. Chem.* C. V. Edwards, Jr., *Ch. Engr.* Charles F. Koch, Electra, Tex.; C. L. Simmons, Kermit, Tex.; J. L. Brown, Olden, Tex.; G. E. Cox, Pampa, Tex.; V. L. Dickinson, El Dorado, Ark.; O. B. Zeek, Stonewall, Okla.; J. A. Upton, St. Louis, Okla.; P. D. Blackburn, Oilton, Okla.; J. F. Lewis, Duncan, Okla.; T. L. Dobbins, Sunray, Tex., *Plant Supts.* 18 plants in Oklahoma, Texas and Arkansas. Capacity 163,700 (6,500 shut down).

Mahutska Oil Co., Robinson State Bank Bldg., Robinson, Ill.

Alex U. McCandless, *Pres.* L. G. Niehoff, *V. P.* John A. Byerly, *Sec.* L. G. Niehoff, *Treas.* F. B. Barnes, *Gen. Supt.* Alex U. McCandless, *Sales Mgr.* S. H. Correll, Robinson, Ill.; Fred Boyd, Oblong, Ill., *Plant Supts.* Plants in Illinois. Capacity, 1,000.

Manhattan Gasoline Co., 718 National Bank of Tulsa Bldg., Tulsa, Okla.

E. I. Hanlon, *Chm. Bd.* J. H. Boyle, *Pres.* D. E. Buchanan, R. E. Miller, *V. P.s.* C. E. Wharton, *Gen. Supt. Gaso. Plant.* R. E. Miller, *Sales Mgr.* E. H. Almond, Sinton, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 30,000.

Mars Co., The, 308 Seneca St., Oil City, Pa.

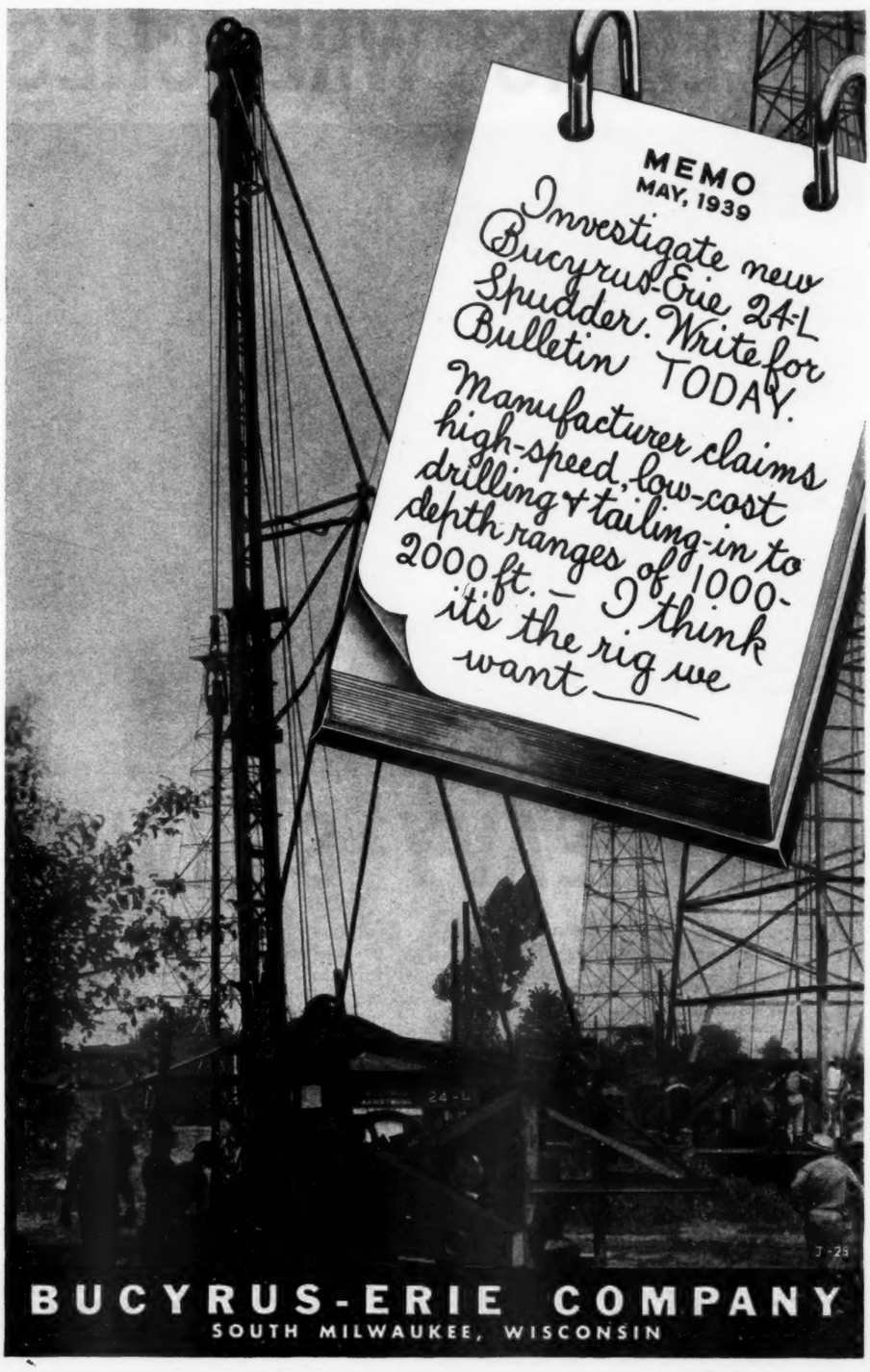
George E. Welker, *Pres.* A. C. Burwell, *V. P.* H. S. Rose, *Sec.* and *Treas.* C. P. Garvey, *Sales Mgr.* M. J. Connor, *Pur. Agt.* J. R. Fay, *Ch. Chem.* W. C. McDonald, Pinegrove plant at Oil City, Pa.; J. J. Kane, Lewis Run, Pa.; W. E. Huggler, Van, Pa.; N. C. Gifford, Miola plant at Clarion, Pa.; E. L. Betz, Hickory, Pa., *Plant Supts.* 5 plants in Pennsylvania. Capacity, 21,300 (9,800 shut down).

Melrose Oil & Gas Co., F. & P. Bank Bldg., Sistersville, W. Va.

Neal K. Wilson, Cuba, N. Y., *Pres.* John P. Flynn, *V. P.* Louis N. Thomas, Fort Worth, Tex., *Sec.* Neal K. Wilson, *Treas.* R. U. Adams, Sistersville, W. Va., *Gen. Supt.* Claude H. Gorby, Sistersville, W. Va.; S. M. Tallurace, Middlebourne, W. Va., *Supts.* Plants in West Virginia. Capacity, 25.

Mid-Continent Petroleum Corp., Cosden Bldg., Tulsa, Okla.

Jacob France, *Pres.* G. O. Moody, *V. P.* A. D. Kneale, *Asst. Sec.* Charles Klein, *Treas.* F. E. Kearney, *Gen. Supt.* C. A. Prichard, *Pur. Agt.* F. C. Bach, Rt. 3, Box 85-A, Bristow, Okla.; Ed Burgess, Box 97, Leonard, Okla.; R. H. Corbin, Box 387, Morris, Okla.; J. A. Blakemore, Box 788, Cromwell,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BUCYRUS-ERIE COMPANY
SOUTH MILWAUKEE, WISCONSIN

Okla.; C. C. Wolford, Box 11, Stroud, Okla.; T. G. Merritt, Box 4384, Oklahoma City, Okla. Plants in Oklahoma. Capacity, 82,000.

Midland Gasoline Co., The, P. O. Box 271, Conroe, Tex.

Henry M. Brown, *Pres.* H. T. McGown, *V. P.* and *Sec.* F. D. Fiegel, *Treas.* W. L. Coffey, *Ch. Chem.* R. C. Coffman, *Ch. Engr.* A. L. Howell, Conroe, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 20,000.

Mockley Petroleum Co., Fry, Tex.

M. E. Mockley, *Owner.* J. W. Roberts, *Gen. Supt. Gaso. Plant.* Homer Lovelace, *Sales Mgr.* and *Pur. Agt.* J. W. Roberts, *Ch. Chem.* O. S. Allen, *Ch. Engr.* 1 plant in Texas. Capacity, 16,000.

Mountain States Oil Corp., The, Keller Bldg., Trinidad, Colo.

C. W. Barnholt, *Pres.* H. G. Stevenson, R. M. Barnholt, *V. P.s.* H. G. Stevenson, *Sec.* and *Ch. Engr.* C. W. Barnholt, *Treas* and *Pur. Agt.* H. G. Stevenson, *Plant Supt.* 1 plant in Colorado. Capacity, 6,000.

N

Natural Gasoline Corp., Twentieth Floor, National Bank of Tulsa Bldg., Tulsa, Okla.

W. K. Warren, *Pres.* J. A. La Fortune, F. W. Dye, *V. P.s* H. E. Felt, *Sec.* J. A. La Fortune, *Treas.* S. M. Barrett, Jr., *Gen. Supt. Gaso. Plants.* S. I. Hulse, *Sales Mgr.* P. J. Hoagland, *Pur. Agt.* L. M. Mauney, *Ch. Chem.* 1 plant in Texas. Capacity, 60,000.

Neal Gasoline Co., Atlas Life Bldg., Tulsa, Okla.

Roy O. Neal, *Pres.* H. B. Neal, *Treas.* L. W. Blair, Osage, Okla., *Plant Supt.* H. B. Neal, *Pur. Agt.* Roy O. Neal, *Ch. Engr.* 1 plant in Oklahoma. Capacity, 4,300.

Nine Oaks Gasoline Corp., Box 628, Electra, Tex.

L. J. Prince, *Pres.* Roy L. Riner, *V. P.* E. B. Prince, *Sec.* and *Treas.* H. T. Bolen, *Gen. Supt. Gaso. Plant.* 1 plant in Texas.

Nolan & Lamberton, 212 S. Olympia, Tulsa, Okla.

Nolan Oil & Gas Co., Chanute, Kans., and J. S. Lamberton, Tulsa, Okla., *Partnership.* W. E. Russell, Oblong, Ill., *Plant Supt.* 1 plant in Illinois.

Northern Natural Gas Co., Aquila Court Bldg., Omaha, Neb.

B. R. Bay, *Pres.* L. B. Denning, Allen Van Wyck, *V. P.s.* J. F. Merriam, *Sec.* and *Treas.* S. W. Taft, *Gen. Supt. Gaso. Plant.* C. F. Martin, *Pur. Agt.* H. J. Carson, *Ch. Engr.* E. S. Newton, Hugoton, Kans., *Plant Supt.* 1 plant in Texas. Capacity, 15,000.

Norwalk Co., The, 634 S. Spring St., Los Angeles, Calif.

Lionel T. Barneson, *Pres.* H. J. Barneson, J. L. Barneson, *V. P.s.* W. E. Kropp, *Sec.* L. L. Aubert, *Gen. Mgr.* H. M. Paulsen, *Asst. to Gen. Mgr.* John C. Penn, *Pur. Agt.* K. E. Grigsby, Box "O," Santa Fe Springs, Calif.; Jack Brennan, Box 688, Maricopa, Calif. Plants in California. Capacity, 70,000.

O

Ohio Oil Co., The, 539 S. Main St., Findlay, Ohio.

O. D. Donnell, *Pres.* John McFadyen, W. W. Fleming, C. L. Fleming, J. C. Connell, II, G. E. McCullough, F. R. Clark, R. C. Gwilliam, *V. P.s.* E. B. Redpath, *Sec.* F. A. Billstone, *Treas.* C. S. Sherk, *Pur. Agt.* E. B. Charston, Shreveport, La.; I. L. Kerr, Robinson, Ill.; George Sowards, Casper, Wyo.; S. A. Smith, Los Angeles, Calif.; W. E. Smith, Eliasville, Tex., *Plant Supts.* 20 plants in Louisiana, Wyoming, Illinois, Texas and California. Capacity, 66,361 (3,600 shut down, 20,000 temporarily abandoned).

Ohio Producing & Refining Co., The, 1405 East Sixth St., Cleveland, Ohio.

John J. McMahon, *Pres.* William G. Hagan, *V. P.* W. G. Rogers, *Sec.* and *Treas.* W. G. Hagan, *Gen. Supt. Gaso. Plant.* A. T. Code, *Pur. Agt.* C. F. Turner, *Ch. Chem.* and *Ch. Engr.* 1 plant in Ohio. Capacity, 5,000.

Oil & Gas Co., The, 318½ Juliana St., Parkersburg, W. Va.

Reese Blizzard, *Pres.* A. D. Ireland, C. M. Bennett, *V. P.s.* Ross Wells, *Sec.* and *Treas.* W. O. Wells, Harrisville, W. Va., *Plant Supt.* Plant in West Virginia. Capacity, 250.

Oil State Gasoline Co., Oscar R. Howard Bldg., Tulsa, Okla.

Oscar R. Howard, *Pres.* W. D. Abbott, *V. P.* W. J. Zollinger, *Sec.* Charles W. Stepp, *Gen. Supt.* John L. Garrison, Jenks, Okla.; Clarence W. Stepp, Yale, Okla., *Plant Supts.* Plants in Oklahoma. Capacity, 2,700.

Oklahoma Gasoline Plants, Inc., Main and Dewey St., Sapulpa, Okla.

L. B. Jackson, *Pres.* E. E. Thompson, *V. P.* W. Maurer, *Sec.* L. B. Jackson, Jr., *Treas.* E. E. Thompson, *Pur. Agt.* E. E. Fisher, *Ch. Engr.* 1 plant in Oklahoma. Capacity, 10,000.

Oklahoma Utilities Co., 123½ W. Seventh St., Bristow, Okla.

C. D. Perry, *Pres.* A. W. Conover, *V. P.* R. C. Poage, *Gen. Mgr.* C. C. Baker, *Sec.* and *Treas.* V. L. Wilson, *Pur. Agt.* A. C. Wright, Bristow, Okla., *Plant Supt.* 1 plant in Oklahoma. Capacity, 5,000.

O. K. Supply Co., Tulsa, Okla.

R. E. Sigmon, *Pres.* Lucille Sigmon, *V. P., Sec.* and *Treas.* Bud Krips, *Plant Supt.* Plant in Oklahoma. Capacity, 1,000.

Owens, Libbey-Owens Gas Dept., P. O. Box 1375, Charleston, W. Va.

W. E. Spalding, *Gen. Mgr.* F. F. Ketchum, *Gen. Supt.* L. L. Kohlbecker, *Pur. Agt.* F. F. Ketchum, *Sales Mgr.* W. B. Strong, *Ch. Engr.* F. F. Ketchum, Box 1375, Charleston, W. Va., *Plant Supt.* Plant in West Virginia. Capacity, 10,000.

P

Pacific Western Oil Corp., 1060 Subway Terminal, Los Angeles, Calif.

W. G. Skelly, *Pres.* H. M. Macomber, Emil Kluth, *V. P.s.* Charles F. Krug, Jr., *Sec.* Harold L. Rowland, *Treas.* Ben A. Koehler, *Gen. Supt.* C. A. Jackson, *Pur. Agt.* W. F. Crane, *Ch. Engr.* J. B. Norton, Goleta, Calif.; B. S. Anderson, Ventura, Calif., *Plant Supts.* Plants in California. Capacity, 30,000.

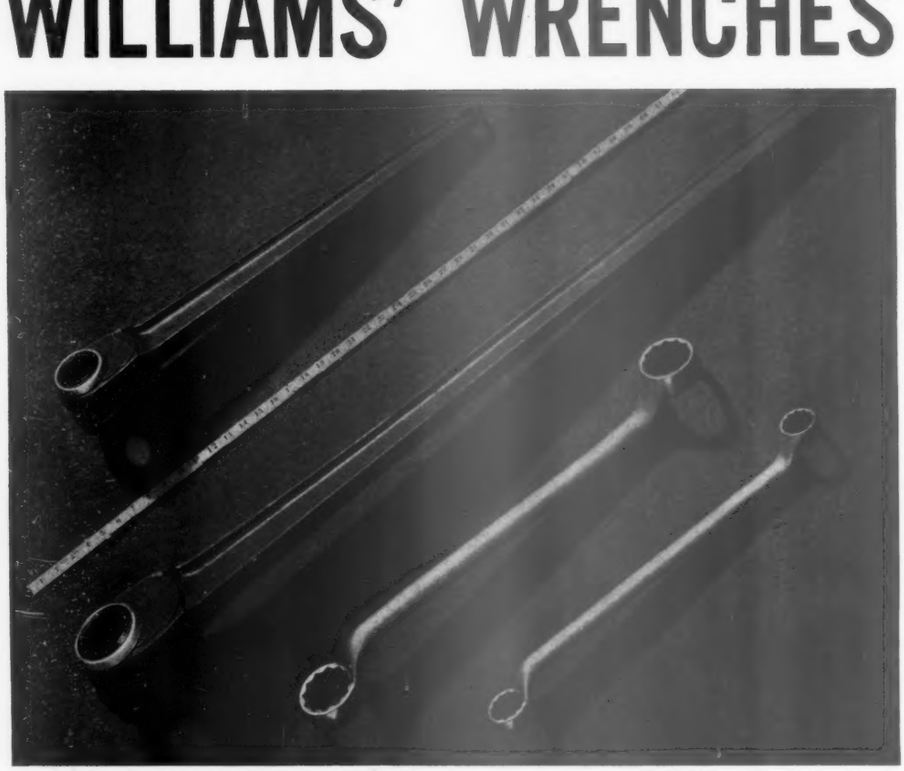
Pala Oil Co., Inc., Mooringsport, La.

F. L. Wiegand, *Pres.* J. M. Post, *V. P.* T. M. Hope, *Sec.* and *Treas.* C. P. Hanlen, Mooringsport, La., *Gen. Supt.* Plant in Louisiana. Capacity, 300.

Panhandle Eastern Pipe Line Co., 101 W. Eleventh St., Kansas City, Mo.

Joe D. Creveling, *Pres.* Gerard J. Neuner, *V. P.* Leith V. Watkins, *Sec.* Louis F. Sperry, *Treas.*

WILLIAMS' WRENCHES



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George T. Koch, *Gen. Supt. Gaso. Plant.* S. A. Taylor, *Pur. Agt.* J. T. Russell, *Ch. Chem.* R. W. Plank, Liberal, Kans., *Plant Supt.* 1 plant in Kansas. Capacity, 75,000.

Parade Gasoline Co., Inc., 421 Commercial Bldg., Shreveport, La.

J. B. Atkins, *Pres.* H. L. Hunt, Dallas, Tex., *First V. P.* D. P. Hamilton, Shreveport, La., *Second V. P.* Roy Lee, Dallas, Tex., *Sec.* and *Treas.* E. L. Clover, Overton, Tex., *Plant Supt.* J. B. Atkins, *Sales Mgr.* R. A. Worley, *Pur. Agt.* J. B. Gershovitz, *Ch. Chem.* B. G. Harbison, *Ch. Engr.* 1 plant in Texas. Capacity, 125,000.

Peppers Gasoline Co., Box 86, Oklahoma City, Okla.

Charles C. Peppers, *Pres.* H. H. Champlin, *Sec.* and *Treas.* J. C. McConnico, *Supt.* Plants in Oklahoma. Capacity, 65,000.

Phillips Petroleum Co., Phillips Bldg., Bartlesville, Okla.

K. S. Adams, *Pres.* Don Emery, G. G. Oberfell, H. E. Koopman, C. P. Dimit, M. P. Youker, F. E. Rice, J. M. Sands, C. R. Musgrave, A. M. Hughes, C. O. Stark, A. H. Rinery, R. C. Jopling, H. A. Trower, George R. Baker, *V. P.s.* B. F. Stradley, *Sec.* R. M. Riggins, Treas. E. L. Utsinger, *Okla. Division Supt.* R. K. McConnell, Oklahoma City, Okla.; J. P. Weatherall, Oklahoma City, Okla.; Carl Fisher, Oklahoma City, Okla.; R. L. Ford, Shidler, Okla.; W. R. Dickens, Edmond, Okla.; L. V. Miller, Bryant, Okla.; W. M. Zollar, Snomac, Okla.; J. H. Oliver, Okmulgee, Okla.; R. L. Stewart, Fairfax, Okla.; C. E. Thomas, Wetumka, Okla.; J. A. Johannes, Wewoka, Okla., *Plant Supts.* H. F. Chapman, Odessa, Tex, *Western Division Supt.* C. Heironimus, Oil Center, N. M.; W. W. Ford, Goldsmith, Tex.; A. C. Brock, Hobbs, N. M.; J. L. Carroll, Penwell, Tex.; W. D. Kirkpatrick, Crane, Tex., *Plant Supts.* A. W. Paris, Phillips, Tex., *Panhandle Division Supt.* A. F. Lasater, Canadian plant; H. M. Rapp, Johnson plant; C. A. Thorne, Carson and Panhandle plants; O. J. Brazil, Pantex plant; J. E. Thompson, Ray plant; Walter Beets, Rockcreek plant; E. R. Martin, Sanford plant; B. V. Wallis, Texroy plant, *Plant Supts.* W. R. Barrett, Lefors, Tex., *Pampa Group Supt.* Homer Gibson, Bowers, Tex.; H. F. Magerkurth, Grayco, Tex.; E. E. Traywick, North Gray, Tex.; W. C. Boatwright, Pampa, Tex.; John Rickard, Wheeler booster plant, *Plant Supts.* L. P. Clarke, Breckenridge, Tex., *Breckenridge Division Supt.* J. F. Waters, Eliasville, Tex.; J. F. Steed, South Bend, Tex.; F. B. Joyce, Frankell, Tex.; J. M. Williams, Ibex, Tex.; R. C. Mason, Bivins, Tex.; George N. Allison, Electra, Tex.; L. E. Cates, Pioneer, Tex., *Plant Supts.* J. K. Gibson, *Supt.* Houston Terminal. C. C. McIntosh, *Supt.* Moore County Carbon Co., Sunray, Tex. 36 plants in Texas, New Mexico and Oklahoma. Capacity, 1,385,500.

Pioneer Corp., 624 S. Cheyenne, Tulsa, Okla.

Thomas C. Smith, *Pres.* Stanley A. Brander, A. D. Blackard, *V. P.s.* Carl Fritz, *Sec.* and *Treas.* J. W. Lyman, Bixby, Okla., *Plant Supt.* 2 plants in Oklahoma. Capacity, 4,000.

Portland Gasoline Co., 1208 Public Service Bldg., Portland, Ore.

Chester A. Sheppard, *Pres.* Franklin T. Griffith, *V. P.* Hilmar Papst, *Sec.* R. J. Hagan, *Treas.* K. W. Bunch, *Gen. Supt. Gaso. Plant.* R. J. Hagan, *Pur. Agt.* B. G. Harris, *Ch. Engr.* 1 plant in Texas. Capacity, 20,000.

Powers, M. F., 624 S. Cheyenne St., Tulsa, Okla.

M. F. Powers, *Owner* and *Gen. Supt. Gaso. Plant.* E. C. Sager, *Sales Mgr.* F. George Heinze, *Pur. Agt.* J. W. Edwards, *Ch. Chem.* Lester Flanagan, Depew, Okla., *Plant Supt.* 1 plant in Oklahoma. Capacity, 4,000.

Powers & Quinlan, 624 S. Cheyenne Ave., Tulsa, Okla.

M. F. Powers and Felix Quinlan, Jr., *Partners.* F. George Heinze, *Pur. Agt.* Felix Quinlan, Jr., Beggs, Okla., *Supt.* Plants in Oklahoma. Capacity, 1,000 (shut down).

President Oil Co., Emlenton, Pa.

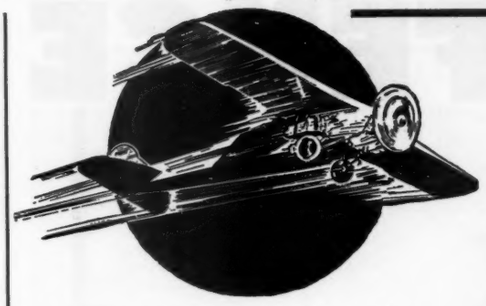
H. J. Crawford, *Pres.* T. P. Gregory, *V. P.* J. E. Taylor, *Sec.* and *Treas.* J. S. Beals, *Gen. Supt.* F. G. McCord, Emlenton, Pa.; S. Smith, Venus, Pa.; Lloyd L. Henry, Parker, Pa., *Supts.* Plants in Pennsylvania. Capacity, 600.

Preston Oil Co., 805 Atlas Bldg., Columbus, Ohio.

Charles A. Munroe, *Pres.* Don M. Wilson, D. T. Ring, Ralph N. Parks, *V. P.s.* William M. Falion, *Sec.* N. E. Shupe, *Treas.* Robert M. Clark, *Sales Mgr.* Roy A. Schuster, *Gen. Supt. of Plant.* Lee Myers, Summerfield, Ohio; Wilbur L. English, Medina, Ohio; J. W. Dumbaugh, Pavonia, Ohio; W. P. Caley, Sugar Grove, Ohio; L. A. Chrisman, Homer, Ohio, *Plant Supts.* 5 plants in Ohio. Capacity, 41,000.

Pure Oil Co., The, 35 East Wacker Drive, Chicago, Ill.

Henry M. Dawes, *Pres.* R. W. McIlvain, C. B. Watson, N. H. Weber, Rawleigh Warner, L. S. Westcoat, *V. P.s* L. S. Westcoat, *Sec.* Rawleigh Warner, *Treas.* R. H. Carr, *Gen. Supt. Gaso. Plants.* R. H. McElroy, *Sales Mgr.* G. L. Parson, *Pur. Agt.* C. R. Wagner,



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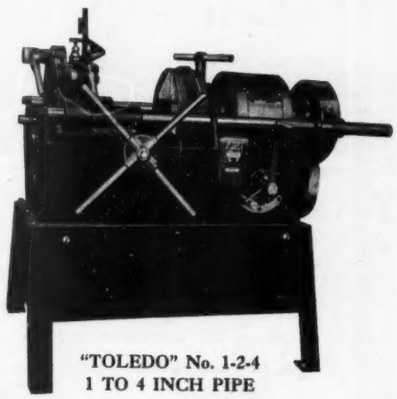
These features make a "'TOLEDO" No. 1-2-4 a most desirable addition to any pipe shop. Send for complete details.



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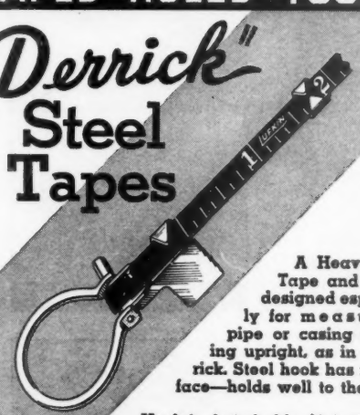
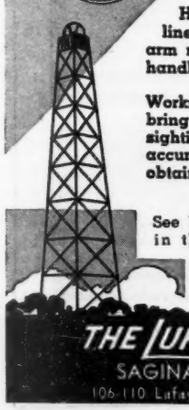


A Heavy Duty Tape and frame designed especially for measuring pipe or casing standing upright, as in a derrick. Steel hook has ribbed face—holds well to the pipe.

Hook is detachable. 1/4 inch wide line reduces wind resistance. Four-arm metal frame with lock winding handle.

Workman in derrick can quickly bring tape into position and without sighting set it down on pipe so that accurate measurement is quickly obtained.



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Ch. Chem. D. E. Sullivan, *Ch. Engr.* C. M. Downing, Drumright, Okla.; Robert Burris, Oilton, Okla.; Jack Swift, Dawes, W. Va.; Joe McCurry, Seminole, Okla.; John Prater, Van, Tex., *Plant Supts.* 5 plants in Oklahoma, West Virginia and Texas. Capacity, 76,000.

R

Ramage, S. Y., Oil City, Pa.

S. Y. Ramage, *Owner.* Floyd Swanson, *Gen. Supt. Gaso. Plants.* S. Y. Ramage, III, *Pur. Agt.* A. M. Kribb, Clintonville, Pa.; Herald Dearth, Franklin, Pa.; Fred McDaniels, Reno, Pa.; Floyd Swanson, Tidioute, Pa., *Plant Supts.* Plants in Pennsylvania.

Rancho Gasoline Corp., Room 1106, 417 S. Hill St., Los Angeles, Calif.

R. E. Bering, *Pres.* P. M. Longan, H. W. Parmelee, *V. P.s.* John M. Longan, *Sec.* and *Treas.* H. W. Parmelee, *Ch. Engr.* Eugene Tays, 10915 Duncan Ave., Compton, Calif., *Supt.* Plant in California. Capacity, 15,000.

Red Brush Oil Co., 10 Walnut St., Tidioute, Pa.

C. E. Gesin, *Gen. Mgr.* Plant in Pennsylvania. Capacity, 40.

Reno Oil Co., Wells Bldg., Sistersville, W. Va.

J. P. Flynn, *Pres.* T. B. Gregory, *V. P.* W. R. Reitz, *Sec.* and *Treas.* J. P. Flynn, *Gen. Supt.* and *Pur. Agt.* A. C. Mercer, Ellenboro, W. Va.; John McGuirk, R.F.D., Harrisville, W. Va.; Otto Woodburn and S. G. Hissam, R.F.D., Sistersville, W. Va.; C. E. Eddy, Wade, Ohio., *Supts.* Plants in West Virginia and Ohio. Capacity, 312.

Rhodes Pool Gasoline Co., Wichita Falls, Tex.

W. V. Hamilton, Wichita Falls, Tex., *Pres.* W. H. Hammon, Wichita Falls, Tex., *V. P.* and *Treas.* James E. Allison, care of Hanlon-Buchanan, Inc., Tulsa, Okla., *Sec.* Jo H. Cable, *Gen. Supt.* 1 plant in Wichita County, Texas. Capacity, 5,000.

Rice Ranch Oil Co., 124 W. Fourth St., Los Angeles, Calif.

J. C. Netz, *Pres.* George W. Lichtenberger, *V. P.* I. M. Hine, *Sec.* B. J. Billington, Santa Maria, Calif., *Gen. Supt. Gaso. Plant.* 1 plant in California. Capacity, 5,000.

Richfield Oil Corp., Richfield Bldg., 555 South Flower St., Los Angeles, Calif.

H. F. Sinclair, *Chm. Bd.* W. Alton Jones, *Chm. Finance Committee.* Charles S. Jones, *Pres.* W. T. Dinkins, A. M. Kelley, Frank A. Morgan, *V. P.s.* M. Richard Gross, *Treas.* W. T. Autrey, *Comptroller.* Cleve B. Bonner, *Sec.* E. B. Downey, *Asst. Treas.* and *Asst. Sec.* Leonard Switzer, *Asst. Sec.* W. T. Dinkins, *Sales Mgr.* H. H. Kelly, *Pur. Agt.* H. R. Linhoff, *Mgr. Gas Operations.* C. E. Gotterba, *Supt. Nat. Gaso. Plants.* E. P. Valby, *Chem. in Gaso. Plants.* M. L. Arnold, *Ch. Engr. of Gaso. Plants.* C. E. Emery, Long Beach, Calif.; A. Enoch, Long Beach, Calif.; I. M. Bumgardner, Taft, Calif.; W. A. Jamfrey, Ventura, Calif., *Plant Foremen.* 5 plants in California. Capacity, 110,000 (15,000 shut down).

Rodgers, M. C. and G. K., 1811 Benedum-Trees Bldg., Pittsburgh, Pa.

M. C. Rodgers and G. K. Rodgers, *Partnership.* Thomas W. Hauley, *Gen. Supt. Gaso. Plant.* D. R. Rodgers, *Plant Supt.* 1 plant in West Virginia. Capacity, 800.

Roeser & Pendleton, Inc., 613 Fort Worth Club Bldg., Fort Worth, Tex.

Charles F. Roeser, *Pres.* Marshall R. Young, *V. P.* A. M. Brackett, *Sec.* and *Pur. Agt.* Marshall R. Young, *Treas.* G. P. Crutchfield, *Gen. Supt. Gaso. Plants.* R. C. Hammock, *Ch. Engr.* 2 plants in Texas. Capacity, 36,000.

Rudco Oil & Gas Co., Tyler, Tex.

I. Rudman, *Pres.* Y. Scrinopskie, *V. P.* H. D. Lloyd, *Sec.* R. Rudman, *Treas.* A. C. Moore, Desdemona, Tex., *Plant Supt.* N. W. Rudman, *Sales Mgr.* and *Pur. Agt.* 1 plant in Texas. Capacity, 5,000.

S

Sabine Valley Gasoline Co., Inc., Shreveport, La.

H. R. Dickerson, *Pres.* and *Treas.* Laurice W. Dickerson, *V. P.* W. D. Wilson, *Sec.* H. H. Beeson, *Ch. Engr.* D. E. Farris, Longview, Tex., *Plant Supt.* 1 plant in Texas. Capacity, 40,000.

Shamrock Oil & Gas Corp., The, Amarillo Bldg., Amarillo, Tex.

John J. Sheerin, *Pres.* Robert T. Wilson, *V. P.* and *Sec.* H. C. Fownes, II, *V. P.* and *Treas.* R. B. Wolf, *Sales Mgr.* E. C. Will, Sunray, Tex., *Pur. Agt.* and *Supt.* F. B. Mack, *Ch. Engr.* H. U. Cook, Lefors, Tex., *Supt.* Plants in Texas. Capacity 91,000.

Say, George K., Estate, R.F.D. 2, Karns City, Pa.

Mrs. Bertha E. Say, *Treas.* 1 plant in Pennsylvania. Capacity, 35.

Shell Oil Co., Inc., Shell Bldg., San Francisco, Calif.

Alexander Fraser, *Pres.* S. Belither, *Exec. V. P.* F. S. Clulow, E. F. Davis, D. Heggie, L. G. McLaren, J. U. Stair, *V. P.s.* A. R. Bradey, *Asst. Sec.* E. C. Peet, *Asst. Treas.* R. S. Tuling, Los Angeles, Calif., *Gen. Supt. Gaso. Plants.* J. C. Herron, Los Angeles, Calif., *Asst. Supt.* R. C. Kendig, Long Beach, Calif., *Ch. Chem.* E. J. Squire, Los Angeles, Calif., *Ch. Engr.* O. S. Kunkel, *Asst. Ch. Engr.* John Sanders, Long Beach, Calif.; A. W. Young, Ventura, Calif.; E. H. Channel, Compton, Calif.; T. P. Wallace, Fullerton, Calif.; William Williams, Bicknell, Calif.; J. L. Brown, Bakersfield, Calif., *Plant Supts.* A. B. Faoro, Long Beach, Calif.; G. B. Israel, Ventura, Calif., *Asst. Plant Supts.* 7 plants in California. Capacity, 237,000.

Shell Oil Co., Inc., Shell Bldg., St. Louis, Mo.

Alexander Fraser, *Pres.* F. A. C. Guepin, A. J. Galloway, E. D. Cumming, P. E. Lakin, H. H. Anderson, R. P. Bascom, J. W. Watson, T. E. Swigart, R. B. Roark, *V. P.s.* J. T. Dickerson, *Sec.* J. W. Watson, *Treas.* and *V. P.* T. R. Goebel, *Gen. Supt. Gaso. Plants.* P. E. Lakin, *Sales Mgr.* C. B. Singleton, *Pur. Agt.* B. F. Briley, Oxford, Kans.; S. W. Craig, Tonkawa, Okla.; C. J. Goldston, Pampa, Tex.; C. E. Haines, Orlando, Okla.; R. H. Medler, Drumright, Okla.; C. E. Smith, Skellytown, Tex.; S. U. Young, Wilson, Okla.; L. Lamar, Wolco, Okla.; John L. May, Iowa, La., *Plant Supts.* 14 plants in Oklahoma, Louisiana, Kansas and Texas. Capacity, 173,000 (23,500 shut down).

Signal Oil & Gas Co., 811 W. Seventh St., Los Angeles, Calif.

S. B. Mosher, *Pres.* R. H. Green, O. W. March, *V. P.s.* H. J. March, *Sec.* J. H. Rounsavell, *Treas.* R. H. Green, *Gen. Supt.* J. F. Thies, *Pur. Agt.* G. L. Young, *Ch. Engr.* R. W. Heath, Long Beach, Calif.; W. Greenfield, Long Beach, Calif., *Supts.* Plants in California. Capacity, 120,000 (15,000 shut down).

Sinclair Prairie Oil Co., Sinclair Bldg., Tulsa, Okla.

H. L. Phillips, *Pres.* W. W. Baker, *V. P.* A. E. Barrus, *Sec.* and *Treas.* A. T. Scherer, *Sales Mgr.* C. L. Brown, *Gen. Supt. Gaso. Plants.* H. A. Woodard, *Pur. Agt.* J. L. Gallagher, *Ch. Chem.* E. A. Wooden, *Ch. Engr.* George H. Youker, Drumright, Okla.; W. D. Dolan, Shamrock, Okla.; B. C. Sharrett, Covington, Okla.; L. M. Kelsey, Shidler, Okla.; L. N. Yates, Kenbro, Kans.; F. B. Pearce, Seminole, Okla.; L. F. Kneeland, Seminole, Okla.; K. R. Elliott, St. Louis, Okla.; L. C. Van Cleave, Oklahoma City, Okla.; C. J. Tighe, Longview, Tex.; V. H. Aker, Arp, Tex.; Steel B. White, Bairoil, Wyo., *Plant Supts.* 13 plants in Oklahoma, Kansas, Texas and Wyoming.

Skelly Oil Co., Skelly Bldg., Tulsa, Okla.

W. G. Skelly, *Pres.* C. C. Herndon, *V. P.* F. T. Hopp, *Treas.* W. T. Atkins, *Sales Mgr.* James W. Vaiden, *Gen. Supt. Gaso. Plants.* L. Barrett, Skellytown, Tex.; A. H. Bazell, Burkburnett, Tex.; L. J. Belanger, Slick, Okla.; R. E. Bullick, Skellytown, Tex.; G. E. Canaday, Cunningham, Kans.; H. E. Chambers, Lyman, Okla.; G. L. Cradduck, Phillips, Tex.; James T. Crawford, Skellytown, Tex.; E. A. Davis, Stinnett, Tex.; C. P. Duvall, Carter Nine, Okla.; C. A. Holmes, Seminole, Okla.; Clarence Lesher, Fairfax, Okla.; Harry Muns, Wynona, Okla.; W. J. Searle, Eunice, N. M.; R. O. Underwood, Jennings, Okla., *Plant Supts.* A. I. Sellars, Tulsa, Okla., *Field Supt.* E. K. Anderson, Lyman, Okla., *Asst. Field Supt.* 18 plants in Texas, Kansas, Oklahoma and New Mexico. Capacity, 229,300.

Sloan & Zook Co., The, 101 Main, Bradford, Pa.

R. T. Zook, *Pres.* William J. Sloan, *V. P.* and *Treas.* H. R. Rich, *Sec.* Paul H. Zook, *Gen. Supt. Gaso. Plant.* T. C. Johnson, *Asst. Gen. Supt.* H. R. Johnson, Kane, Pa., *Plant Supt.* 1 plant in Pennsylvania. Capacity, 1,500.

Smith Bros. Refining Co., McLean, Tex.

Vester Smith, *Pres.* Porter Smith, *V. P.* P. J. Coffey, *Sec.* and *Treas.* Plants in Texas. Capacity, 70,000.

Snowden & McSweeney Co., 598 Madison Ave., New York, N. Y.

Henry McSweeney, *Pres.* J. P. Shannon, George G. Snowden, Jr., *V. P.s.* Pearl M. Snowden, *Sec.* Marie H. Wright, *Treas.* A. E. Baldwin, Bridgeport, Ill., *Gen. Supt.* Plant in Illinois. Capacity, 800.

Southern Minerals Corp., Corpus Christi, Tex.

H. A. Galt, Barberton, Ohio, *Pres.* C. B. Brown, Philadelphia, Pa., *V. P.* J. H. Heroy, New York, N. Y., *Sec.* F. W. Currier, Pittsburgh, Pa., *Treas.* Shelton Lee, *Pur. Agt.* S. Maston Nixon, *Asst. to Pres., Mgr. Operations.* 1 plant in Texas. Capacity, 50,000.

South Penn Oil Co., Chamber of Commerce Bldg., Pittsburgh, Pa.

P. H. Curry, *Pres.* H. J. Little, *Chg. of Gaso. Dept.* Plants in West Virginia and Pennsylvania.

Standard Oil Co. of California, 225 Bush St., San Francisco, Calif.

W. H. Berg, *Pres.* H. D. Collier, R. W. Hanna, R. K. Davies, M. E. Lombardi, *V. P.s.* J. H. Tuttle, *Sec.* V. F. Palmer, *Treas.* 26 plants in California. Capacity, 626,000.

Standard Oil Co. of Louisiana, 2134 St. Charles Ave., New Orleans, La.

M. J. Rathbone, *Pres.* J. A. Bechtold, M. W. Boyer, S. W. Day, J. R. McWilliams, J. E. Skehan, *V. P.s.* R. A. Howe, Shreveport, La., *Gen. Supt.* Plants in Louisiana and Arkansas. Capacity, 20,340 (1,000 shut down).

Standard Oil Co. of Texas, 225 Bush St., San Francisco, Calif.

W. H. Berg, *Pres.* R. W. Hanna, R. K. Davies, M. E. Lombardi, G. E. Kennedy, *V. P.s.* J. H. Tuttle, *Sec.* V. F. Palmer, *Treas.* 1 plant in Texas. Capacity, 30,000.

Stanolind Oil & Gas Co., Philcade Bldg., Tulsa, Okla.

F. O. Prior, *Pres.* A. W. Peake, *Chm. Bd.* E. F. Bullard, A. M. McCorkle, *V. P.s.* F. J. Keleher, *Sec.* and *Treas.* C. S. Sanders, *Gen. Supt. Gaso. Plants.* W. L. James, *Pur. Agt.* V. N. Sibley, Midwest, Wyo.; A. Hall, Gilliam, La., *Plant Supts.* 2 plants in Wyoming and Louisiana. Capacity, 62,000.

Stranahan & Cheuvront, 405 W. Main St., Oblong, Ill.

A. B. Cheuvront, *Sec., Treas.* and *Gen. Supt. Gaso. Plants.* J. F. Brown, Oblong, Ill., *Plant Supt.* 2 plants in Illinois. Capacity, 40.

Success Oil Co., 503 W. Elm., Titusville, Pa.

George H. Davis, *Sec.* Aubrey Porter, Jr., Titusville, Pa., *Plant Supt.* 1 plant in Pennsylvania. Capacity, 1,500.

Superior Oil Co., 930 Edison Bldg., Los Angeles, Calif.

W. M. Keck, *Pres.* J. P. Chandler, Charles A. Dore, W. A. Pruett, *V. P.s.* J. P. Chandler, *Sec.* and *Treas.* George H. Barry, *Pur Agt.* Plant in California. Capacity, 100,000.

T

Texas Co. (California), The, 929 Broadway, Los Angeles, Calif.

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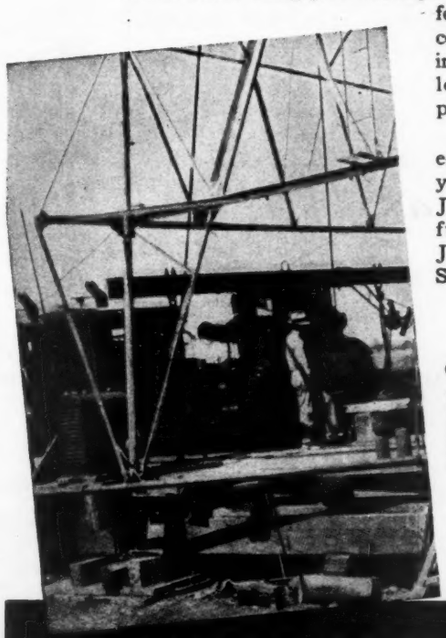

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Texas Co. (Delaware), The, 135 E. Forty-second St., New York, N. Y.

W. S. S. Rodgers, *Pres.* H. W. Dodge; T. J. Donoghue, Houston, Tex.; H. T. Klein; F. T. Manley; G. L. Noble, Houston, Tex.; R. Ogarrio, *V. P.s.* E. M. Crone, *Sec.* C. E. Woodbridge, *Treas.* W. L. Kallman, northern; S. B. Wright, Chicago, Ill., central; J. S. Leach, Houston, Tex., southern, *Sales Mgrs.* A. F. Colling, *Pur. Agt.* M. J. Adams, Fort Worth, Tex.; C. C. Kelley, Tulsa, Okla., *Supts.* Plants in Texas, Louisiana, Oklahoma and Kansas. Capacity, 98,720.

Texas Pacific Coal & Oil Co., Fort Worth National Bank Bldg., Fort Worth, Tex.

J. R. Penn, *Pres.* O. E. Mitchell, *V. P.* R. Seibel, *Sec.* and *Treas.* D. B. Hiatt, *Gen. Supt. Gaso. Plants.* O. E. Mitchell, *Sales Mgr.* J. C. Davis, *Pur. Agt.* D. J. Coasta, *Ch. Engr.* C. S. Bronstad, Caddo, Tex.; H. D. White, Strawn, Tex., *Plant Supts.* 2 plants in Texas. Capacity, 25,000.

Texoma Natural Gas Co., 20 N. Wacker Drive, Chicago, Ill.

Floyd C. Brown, *V. P.* and *Gen. Mgr.* S. E. Campbell, *Sec.* E. H. Johnston, *Treas.* R. T. Powers, *Gen. Supt. Gaso. Plants.* L. E. Biggs, *Pur. Agt.* E. G. Hammerschmidt, *Ch. Chem.* G. M. Davidson, *Ch. Engr.* J. G. Barnhart and George Gibbs, *Plant Supts* at Fritch, Tex. 1 plant in Texas. Capacity, 80,000.

Thomas, R. L., 290 Main St., Tidioute, Pa.

R. L. Thomas, *Owner.* 1 plant in Pennsylvania. Capacity, 200.

Tide Water Associated Oil Co., 17 Battery Place, New York, N. Y.

William F. Humphrey, *Pres.* Edward L. Shea, *Exec. V. P.* C. R. Barton, L. F. Bayer, J. D. Collins, L. D. Decius, B. I. Graves, George J. Hanks, L. D. Jurs, R. B. Pringle, Noel Robinson, R. E. Ryerson, Edward H. Salrin, *V. P.s.* William J. Burker, *Sec.* J. P. Edwards, *Exec. Sec.* K. R. Hankinson, *Treas.* L. M. Jagon, *Gen. Supt. Gaso. Plants.* M. F. Bridges, Tulsa, Okla., *Pur. Agt.* R. W. Boyd, *Ch. Chem.* O. W. Gierow, *Ch. Engr.* 2 plants in Oklahoma and Louisiana. Capacity, 19,700.

Tompsett Brothers, 15 Main St., Tidioute, Pa.

W. C. Tompsett, *Pres.* George Wilson, *Gen. Supt.* 1 plant in Pennsylvania. Capacity, 200.

Triangle Co. of Pennsylvania, Pine Hollow Road, McKees Rocks, Pa.

J. B. Montgomery, *Pres.* and *Sec.* S. H. Morgan, *Treas.* A. A. Bock, *Gen. Supt. Gaso. Plant.* 1 plant in Pennsylvania.

Triumph Petroleum Co., Route 2, Tidioute, Pa.

Ernest R. Johnson, *Pres.* 1 plant in Pennsylvania. Capacity, 150.

Tucker Oil Co., 1210 City National Bank Bldg., Wichita Falls, Tex.

J. J. Perkins, *Pres.* Charles J. Tucker, *V. P.* Harold Murph, *Sec.* and *Treas.* L. B. Horr, Burkburnett, Tex., *Plant Supt.* and *Pur. Agt.* Charles J. Tucker, *Sales Mgr.* 1 plant in Texas. Capacity, 5,000.

Tyler Oil Co., Sistersville, W. Va.

H. J. Crawford, *Pres.* J. P. Flynn, *V. P.* Nell B. McCoy, *Sec.* J. P. Flynn, *Gen. Supt.* Plants in West Virginia and Ohio. Capacity, 149.

U

Union Gasoline & Oil Corp., Kanawha Valley Bldg., Charleston, W. Va.

Charles A. Munroe, *Pres.* Don M. Wilson, D. T. Ring, Ralph N. Parks, *V. P.s.* William M. Falion, *Sec.* N. E. Shupe, *Treas.* Ralph N. Parks, *Sales Mgr.* J. E. Pew, *Ch. Chem.* W. H. Dardinger, Moundsville, W. Va.; Charles Stackpole, Porter Falls, W. Va.; Rex Allman, Jane Lew, W. Va., *Plant Supts.* 4 plants in Vest Virginia. Capacity, 16,000 (6,000 shut down).

Union Oil Co. of California, 617 W. Seventh St., Los Angeles, Calif.

L. P. St. Clair, *Chm. Bd.* Reese H. Taylor, *Pres.* W. L. Stewart, Jr., Paul M. Gregg, A. C. Rubel, V. H. Kelly, A. C. Galbraith, *V. P.s.* A. C. Stewart, *Asst. V. P.* J. M. Rust, *Treas.* A. C. Marshall, H. W. Sanders, *Asst. Treas.* W. R. Edwards, *Sec.* E. H. Estill, *Asst. Sec.* M. G. Kerr, *Comptroller.* A. B. Mason, I. J. Hancock, *Asst. Comptrollers.* R. D.

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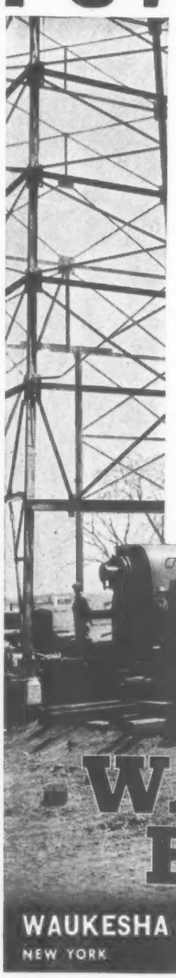

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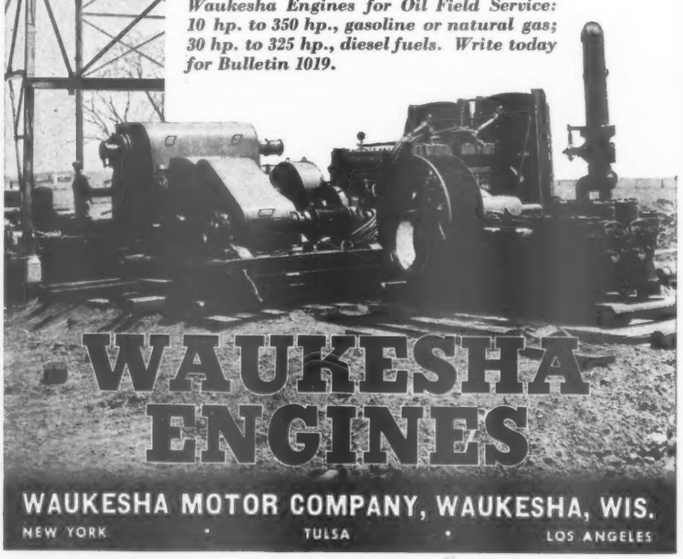

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Indian Refining Company, Lawrenceville, Illinois		1,500
The Texas Company, Port Arthur, Texas		6,000
Shell Refineries, Ltd., England		1,650
Elwerath, Germany	*	1,700
Photogen Rafinerie de Petrol, Roumania	*	100
The Magnolia Petroleum Co., Beaumont, Texas	*	3,000
Trinidad Leaseholds, Pointe-a-Pierre, Tr.		2,910
Shell Oil Company, Martinez, California	*	3,250
		25,110

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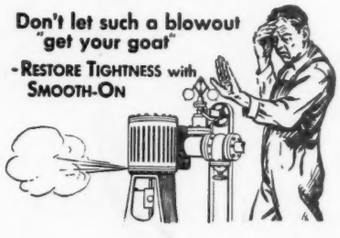

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United Carbon Co., Inc., Union Bldg., Charleston, W. Va.

Oscar Nelson, *Pres.* G. A. Williams, T. F. Koblegard, *V. P.s.* C. H. McHenry, *Sec.* T. A. Whelan, *Treas.* H. E. Norrick, *Gen. Supt.* A. G. Treadgold, *Sales Mgr.* C. A. Urban, *Pur. Agt.* Hilding Hanson, *Ch. Engr.* G. L. Roberts, *Ch. Chem.* H. W. Engstrom, Monroe, La., *Plant Supt.* Plants in Louisiana. Capacity 18,000 (14,000 shut down).

United Gas Pipe Line Co., P. O. Box 2492, Houston, Tex.

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Universal Consolidated Oil Co., 417 S. Hill St., Los Angeles, Calif.

E. G. Starr, *Pres.* R. E. Stearns, *V. P.* R. D. Miller, *Sec.* and *Treas.* H. W. Parmelee, *Ch. Engr.* W. J. Galvin, *Plant Supt.* 1 plant in California. Capacity, 9,000.

Utilities Production Corp., Tulsa, Okla.

B. F. Pickard, St. Louis, Mo., *Pres.* W. F. Hebeler, *V. P.* E. C. Brown, *Sec.* Weldon Smith, *Treas.* E. C. Wetter, *Pur. Agt.* Plant in Oklahoma. Capacity, 1,500 (shut down).

V

Vacuum Gasoline Co., 102 W. Washington St., Sullivan, Ind.

E. M. Kerlin, *Pres.* and *Treas.* C. E. Kerlin, *V. P.* William H. Smith, *Sec.* R. C. Kerlin, *Gen. Supt.* and *Pur. Agt.* Homer Means, Bridgeport, Ill., *Plant Supt.* and *Ch. Engr.* 2 plants in Illinois. Capacity, 4,000.

Victor Gasoline Co., 624 S. Cheyenne St., Tulsa, Okla.

M. F. Powers, *Pres.* C. P. Quinlan, *V. P.* A. D. Blackard, *Sec.* Felix Quinlan, Jr., *Treas.* E. C. Sager, *Sales Mgr.* M. F. Powers, *Gen. Supt. Gaso. Plants.* F. George Heinze, *Pur. Agt.* J. W. Edwards, *Ch. Chem.* L. J. Rush, Bristow, Okla.; D. B. Gilmore, Stroud, Okla., *Plant Supts.* 2 plants in Oklahoma. Capacity, 7,500.

Vincennes Oil & Gas Co., The, 102 W. Washington St., Sullivan, Ind.

E. M. Kerlin, *Pres.* and *Treas.* R. C. Kerlin, *V. P.* William H. Smith, *Sec.* R. C. Kerlin, *Gen. Supt.* and *Pur. Agt.* Homer Means, Bridgeport, Ill., *Plant Supt.* and *Ch. Engr.* 1 plant in Illinois. Capacity, 1,000.

Virginian Gasoline & Oil Co., Kanawha Valley Bldg., Charleston, W. Va.

Charles A. Munroe, *Pres.* Don M. Wilson, D. T. Ring, Ralph N. Parks, *V. P.s.* William M. Falion, *Sec.* N. E. Shupe, *Treas.* Ralph N. Parks, *Sales Mgr.* J. E. Pew, *Ch. Chem.* B. R. Samples, Elkview, W. Va.; W. L. Haynes, Clendenin, W. Va.; W. H. Evilsizer, Charleston, W. Va.; C. R. Smith, St. Albans, W. Va.; George Kiser, Hubball, W. Va.; C. H. Copenhaver, Elkview, W. Va.; George S. Robinson, Mammoth, W. Va.; Ray Grabeel, Sandyville, W. Va.; H. W. Critchfield, Sandyville, W. Va.; W. F. Burdette, Three Mile, W. Va.; Silas Clark, Pad, W. Va.; S. M. Pittman, Charleston, W. Va.; Ramie J. Grady, Spencer, W. Va.; Owen Wheeler, Catlettsburg, Ky.; M. H. Griffith, Kermit, W. Va., *Plant Supts.* 16 plants in West Virginia and Kentucky. Capacity, 189,600 (17,300 shut down).

W

Waggoner, W. T., Estate (Natural Gasoline Department), Vernon, Tex.

G. L. Waggoner, *Pres.* E. P. Waggoner, *V. P.* R. L. More, *Sec.* C. A. Hodges, *Gen. Mgr.* J. T. McNamara, *Pur. Agt.* A. K. Thorne, *Supt.* Plant in Texas. Capacity, 12,000.

Wahl, A. R., 249 Main St., Evans City, Pa.

A. R. Wahl, *Owner.* H. L. Lotz, *Plant Supt.* 1 plant in Pennsylvania. Capacity, 165.

Warner-Caldwell Oil Co., Second National Bank Bldg., Titusville, Pa.

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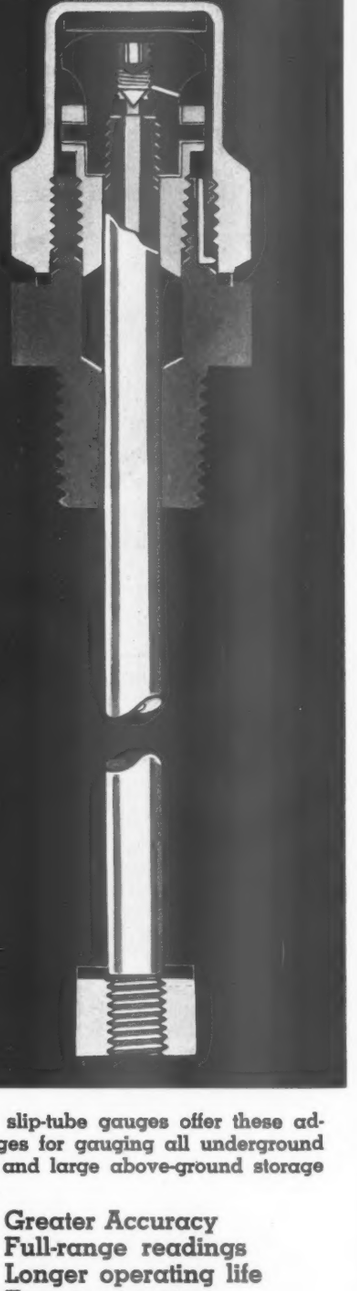

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Wentz, L. H. (Oil Division), Ponca City, Okla.

O. H. Schoenwald, *Gen. Supt.* and *Sales Mgr.* C. S. Harkness, *Pur. Agt.* M. F. Johnson, Newkirk, Okla., *Plant Supt.* 1 plant in Oklahoma. Capacity, 2,500.

West Coast Refining Co., 802 Richfield Bldg., Los Angeles, Calif.

A. H. Bradford, *Pres.* M. D. Schatzman, *V. P.* William B. Ogden, *Sec.* and *Treas.* B. M. Hennessey, Placentia, Calif., *Plant Supt.* 1 plant in California. Capacity, 50,000.

Western States Gasoline Corp., 609 S. Grand Ave., Los Angeles, Calif.

C. R. Gallagher, *Pres.* E. McGowan, *V. P.* G. C. O'Connell, *Sec.* C. R. Gallagher, *Treas.* W. N. Roper, *Gen. Supt.* C. E. Spangler, *Pur. Agt.* W. N. Roper, *Ch. Engr.* W. F. Boice, Kettleman Hills, P. O. Box 7, Avenal, Calif.; K. C. Hamilton, San Miguelito, P. O. Box 624, Ventura, Calif., *Plant Supts.* Plants in California. Capacity, 170,000.

Westoak Gasoline Co., P. O. Box 507, Sayre, Okla.

Oscar Nelson, *Pres.* D. S. Keenan, *V. P.* C. K. Springfield, *Sec.* and *Treas.* W. F. Seeger, *Gen. Supt.* Carl Williams, *Ch. Engr.* E. Adams, Sayre, Okla., *Plant Supt.* Plants in Oklahoma. Capacity, 15,000.

West Texas Gas Co., Lubbock, Tex.

Albert R. Jones, Kansas City, Mo., *Pres.* R. F. Hinchey, *V. P.* and *Gen. Mgr.* P. C. Spencer, 630 Fifth Ave., New York City; M. D. Snyder, P. O. Box 637, Amarillo, Tex.; E. A. Sickels, P. O. Box 521, Tulsa, Okla., *V. P.s.* George Baird, *Sec.* and *Treas.* E. C. Wagner, Amarillo, Tex., *Gen. Supt.* E. D. Parker, *Pur. Agt.* W. W. Rusk, Amarillo, Tex., *Ch. Engr.* J. S. LeGate, Box 445, Rt. 3, Amarillo, Tex., *Supt.* Plant in Texas. Capacity, 30,000.

Wilcox, H. F., Oil & Gas Co., Sixth and Denver Sts., Tulsa, Okla.

Homer F. Wilcox, *Pres.* F. H. Dunn, *Exec. V. P.* M. P. Appleby, *V. P.* and *Treas.* C. L. Miller, *Sec.* and *Asst. Treas.* D. C. Gantt, *Gen. Supt. Gaso. Plants.* Plants shut down.

Wilshire Oil Co., Inc., 2455 E. Twenty-seventh St., Vernon, Calif.

George L. Machris, *Pres.* Maurice A. Machris, *V. P.* Alfred P. Machris, *Sec.* and *Treas.* L. A. Seppi, *Gen. Supt.* M. M. Fletcher, *Sales Mgr.* Fred Behrens, *Ch. Chem.* A. Pateracki, *Pur. Agt.* William F. Neeley, *Ch. Engr.* Plant in California. Capacity, 60,000.

Wolverine Petroleum Corp., Shell Bldg., St. Louis, Mo.

Alexander Fraser, *Pres.* J. W. Watson, *V. P.* T. R. Goebel, *Gen. Supt.* P. E. Lakin, *Sales Mgr.* C. B. Singleton, *Pur. Agt.* R. E. Baker, *Plant Supervisor.* L. Lamar, Drawer B, Wolco, Okla.; S. U. Young, P. O. Box 548, Wilson, Okla., *Supts.* Plants in Oklahoma. Capacity, 20,000.

Wright, Rosa B., Sapulpa, Okla.

Rosa B. Wright, *Owner.* J. A. Rettenmeyer, *Gen. Supt.* A. B. Nigh, *Ch. Engr.* and *Plant Supt.* 1 plant in Oklahoma. Capacity, 5,000.

Well Records

Loss of well records in the eastern states, and the fact that no record was ever made of some wells, is causing lease-men to consult old residents in the area about to be prospected.

One independent operator recently blocked up several thousand acres in Indiana after consulting the state well records. A deal with a major company was made. The independent operator later made a personal survey and tentatively selected the site for the wildcat but then learned from the neighboring farmers that three dry holes had been drilled around his "wildcat" about 20 years ago. Major company and independent abandoned the project.

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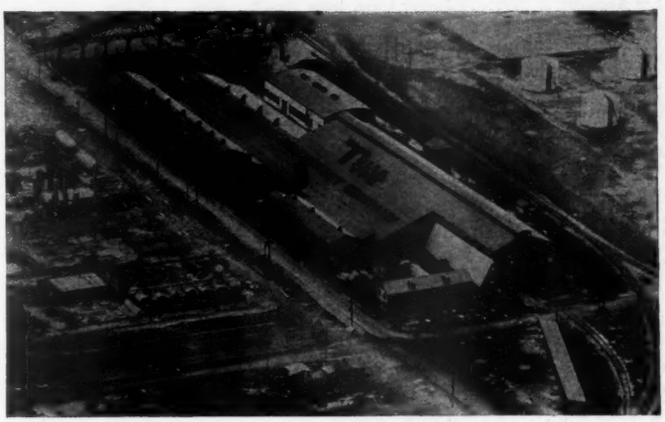
During your visit to Tulsa for the Natural Gasoline Convention, we invite you to visit the plant where TULSA-TYPE Gasoline Plant and Refinery Equipment is Built—Right.



BUILT TULSA TYPE RIGHT

Tulsa Boiler & Machinery Co.

HAVE YOU RENEWED YOUR JOURNAL SUBSCRIPTION? DO IT PROMPTLY

1939 Survey of Natural Gasoline Plants in U.S.

ARKANSAS

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Arkansas Fuel Oil Co., Shreveport, La.	Sec. 31-17s-15w, Union Co.	C-A	5,000
East Texas Ref. Co., Dallas, Tex.	Sec. 11-20-28, A. A. Capps lease, Miller County	Absp.	75,000
Gulf Refining Co., El Dorado	Sec. 8-18-15, Union County	Absp.	*5,000
Louisiana Iron & Supply Co., Shreveport, La.	El Dorado	Comp.	3,000
Louisiana Iron & Supply Co., Shreveport, La.	Louann	Comp.	3,000
Magnolia Petroleum Co., Dallas, Tex.	Sec. 8-15s-16w	Absp.	5,000
Standard Oil Co. of La., El Dorado	El Dorado	C-A	10,660
Standard Oil Co. of La., Smackover	Smackover	C-A	*1,000

*Shut down.

CALIFORNIA

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Bankline Oil Co., Los Angeles	Jasper lease, Long Beach	Absp.	20,000
Barnsdall Oil Co., Goleta	Sec. 15-4n-29w, Santa Barbara County	Absp.	60,000
Belridge Oil Co., Los Angeles	Belridge	Absp.	70,000
Belridge Oil Co., Los Angeles	Elk Hills	Absp.	5,000
Calumet Oil Co., Los Angeles	Sec. 3-3n-19w, Ventura Co.	Comp.	1,000
Coline Gasoline Corp., Torrance	Torrance	Absp.	15,000
Coline Gasoline Corp., Torrance	Torrance, Pl. 2	Absp.	15,000
Coline Gasoline Corp., Rincon	Santa Cruz County	Absp.	17,000
Cowan Oil & Ref. Co., Los Angeles	Belridge-Lost Hills field	Absp.	60,000
Cowan Oil & Ref. Co., Rosecrans	Rosecrans	Absp.	15,000
Del Rey Oil & Gas Co., Venice	Playa del Rey field	Absp.	60,000
Field, O. C., Gasoline Corp., Huntington Beach	Huntington Beach	Absp.	40,000
Field, O. C., Gasoline Corp., Huntington Beach	Huntington Beach	Absp.	30,000
General Pet. Corp. of Calif., Los Angeles	Brea-Olinda	Absp.	*20,000
General Pet. Corp. of Calif., Los Angeles	Athens-Rosecrans	C-A	40,000
General Pet. Corp. of Calif., Los Angeles	Santa Fe Springs	Absp.	55,000
General Pet. Corp. of Calif., Los Angeles	Barnard lease, Ventura	Absp.	25,000
General Pet. Corp. of Calif., Los Angeles	Wilmington	Absp.	60,000
Gilmore-Dabney, Inc., Long Beach	Signal Hill	Absp.	30,000
Hokom, John, Oil & Gasoline Co., Ltd., Los Angeles	Lawndale	C-A	5,000
Honolulu Oil Corp., Taft	Buena Vista Hills field	C-A	30,000
Honolulu Oil Corp., Taft	Buena Vista Hills field	C-A	30,000
Inglewood Gasoline Corp., Long Beach	Inglewood	Absp.	4,000
Italo Pet. Corp. of America, Coalinga	Sec. 6-21s-15e M.D. m., Fresno County	Absp.	300
Kern-St. Helens Properties, Los Angeles	Montebello field, Kern Co.	Absp.	Idle
Kern-St. Helens Properties, Los Angeles	Midway field, Kern Co.	Absp.	Idle
Lomita Gasoline Co., Long Beach	Jergins lease	Absp.	80,000
Lomita Gasoline Co., Long Beach	Mountain View	Absp.	40,000
Los Nietos Producing & Refining Co., Ltd., Avenal	Kettleman Hills	Absp.	140,000
Norwalk Co., The, Los Angeles	Midway-Sunset	Absp.	5,000
Norwalk Co., The, Los Angeles	Midway-Sunset	Absp.	10,000
Norwalk Co., The, Los Angeles	Santa Fe Springs	Absp.	60,000
Ohio Oil Co., Los Angeles	El Segundo, Los Angeles Co.	C-A	*20,000
Pacific Western Oil Corp., Los Angeles	Elwood	Absp.	15,000
Pacific Western Oil Corp., Los Angeles	Ventura	Absp.	15,000
Rancho Gasoline Corp., Los Angeles	Kern County	Char.	*15,000
Rice Ranch Oil Co., Santa Maria	Near Orcutt, Santa Barbara County	Absp.	5,000
Richfield Oil Corp., Los Angeles	Crampton lease, Elk Hills	Absp.	5,000
Richfield Oil Corp., Los Angeles	El Segundo	Absp.	50,000
Richfield Oil Corp., Los Angeles	Huntington Beach	Absp.	*15,000
Richfield Oil Corp., Los Angeles	Long Beach	Absp.	25,000
Richfield Oil Corp., Los Angeles	Rincon	Absp.	15,000
Shell Oil Co., Fullerton	Brea	Absp.	12,000
Shell Oil Co., Bicknell	Capitan	Absp.	2,500
Shell Oil Co., Compton	Dominguez	Absp.	30,000
Shell Oil Co., Long Beach	Long Beach	Absp.	75,000
Shell Oil Co., Bicknell	Santa Maria	Absp.	2,500
Shell Oil Co., Bakersfield	Ten Section	Absp.	15,000
Shell Oil Co., Ventura	Ventura	Absp.	100,000
Signal Oil & Gas Co., Los Angeles	Elwood	Absp.	10,000
Signal Oil & Gas Co., Los Angeles	Long Beach	Absp.	*20,000
Signal Oil & Gas Co., Los Angeles	Long Beach	Absp.	30,000
Signal Oil & Gas Co., Los Angeles	Long Beach	Absp.	*15,000
Signal Oil & Gas Co., Los Angeles	Long Beach	Absp.	15,000
Signal Oil & Gas Co., Los Angeles	Long Beach	Absp.	*30,000
Standard Oil Co. of Calif., San Francisco	Cahn lease, Lost Hills	Absp.	4,000
Standard Oil Co. of Calif., San Francisco	Brea	Absp.	6,000
Standard Oil Co. of Calif., San Francisco	Murphy-Coyote	Absp.	20,000
Standard Oil Co. of Calif., San Francisco	Greeley, Section 20	Absp.	20,000
Standard Oil Co. of Calif., San Francisco	Hunt. "E" lease, Huntington Beach	Absp.	25,000
Standard Oil Co. of Calif., San Francisco	Hunt. "D" lease, Huntington Beach	Absp.	20,000
Standard Oil Co. of Calif., San Francisco	Hunt. "A" lease, Huntington Beach	Absp.	.....
Standard Oil Co. of Calif., San Francisco	Inglewood	Absp.	14,000
Standard Oil Co. of Calif., San Francisco	Sec. 29-V lease, Kettleman Hills	Absp.	6,500
Standard Oil Co. of Calif., San Francisco	Sec. 11-P lease, Kettleman Hills	Absp.	65,000
Standard Oil Co. of Calif., San Francisco	Sec. 3-P, Kettleman Hills	Absp.	120,000
Standard Oil Co. of Calif., San Francisco	Sec. 33-J lease, Kettleman Hills	Absp.	100,000
Standard Oil Co. of Calif., San Francisco	Long Beach	Absp.	21,000
Standard Oil Co. of Calif., San Francisco	Sec. 1-C lease, Taft	Absp.	16,000
Standard Oil Co. of Calif., San Francisco	Sec. 7-D lease, Taft	Absp.	16,000
Standard Oil Co. of Calif., San Francisco	Sec. 31-B lease, Taft	Absp.	7,000
Standard Oil Co. of Calif., San Francisco	Sec. 35-S lease	Absp.	.....
Standard Oil Co. of Calif., San Francisco	Sec. 29-G lease, Taft	Absp.	10,000
Standard Oil Co. of Calif., San Francisco	Sec. 31-E lease, Taft	Absp.	10,000
Standard Oil Co. of Calif., San Francisco	Sec. 32-Z lease, Mountain View	Absp.	10,000
Standard Oil Co. of Calif., San Francisco	Mullaney lease, 24-X, Mountain View	Absp.	.....
Standard Oil Co. of Calif., San Francisco	Santa Gertrudes, Santa Fe Springs	Absp.	30,000
Standard Oil Co. of Calif., San Francisco	San Gabriel lease, Seal Beach	Absp.	27,000
Standard Oil Co. of Calif., San Francisco	Joughin lease, Torrance	Absp.	8,500
Standard Oil Co. of Calif., San Francisco	Lloyd, Ventura	Absp.	41,000
Standard Oil Co. of Calif., San Francisco	McGonigle Lloyd, Ventura	Absp.	29,000
Superior Oil Co., Los Angeles	Kettleman Hills	Absp.	100,000
Texas Co., Los Angeles	Huntington Beach	Absp.	20,000
Texas Co., Los Angeles	Long Beach	Absp.	75,000
Texas Co., Los Angeles	Montebello	Absp.	25,000
Texas Co., Los Angeles	Santa Fe Springs	Absp.	50,000
Texas Co., Los Angeles	South Mountain, Ventura County	Comp.	10,500
Texas Co., Los Angeles	Shiells Canyon, Ventura County	Absp.	35,000
Union Oil Co. of Calif., Los Angeles	Stearns lease, Brea-Olinda	Absp.	22,500
Union Oil Co. of Calif., Los Angeles	Hellman lease, Dominguez	Absp.	69,000
Union Oil Co. of Calif., Los Angeles	King lease, Kettleman Hills	Comp.	30,000
Union Oil Co. of Calif., Los Angeles	Morse lease, Richfield	Absp.	10,000
Union Oil Co. of Calif., Los Angeles	Rosecrans lease, Rosecrans	Absp.	27,000
Union Oil Co. of Calif., Los Angeles	Bell lease, Santa Fe Springs	Absp.	70,000
Union Oil Co. of Calif., Los Angeles	Newlove lease, Santa Maria	Absp.	15,000
Union Oil Co. of Calif., Los Angeles	Kernco "34" lease, Rio Bravo	Absp.	15,000
Universal Consolidated Oil Co., Los Angeles	Rosecrans	Absp.	9,000
West Coast Ref. Co., Placentia	Richfield, Orange Co.	Absp.	50,000
Western States Gasoline Corp., Avenal	Kettleman Hills, Kings County	Absp.	160,000
Western States Gasoline Corp., Ventura	San Miguelito, Ventura	Absp.	8,000
Wilshire Oil Co., 2455 E. 27th St., Vernon	Santa Fe Springs	Absp.	50,000

*Shut down.

COLORADO

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Mountain States Oil Corp., Trinidad	SE¼ Sec. 3-33s-62w	Absp.	6,000

ILLINOIS

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
American Oil Development Co., Oblong	Crawford County	Comp.	200
American Oil Development Co., Eaton	Crawford County	Comp.	200
American Oil Development Co., Hardinville	Crawford County	Comp.	100
Arkansas Fuel Oil Co., Shreveport, La.	Sec. 3, Prairie Twp., Crawford County	Comp.	500
Bell Bros., Robinson	Crawford County	Comp.	25
Brenneman & MacDonell, Lima, Ohio	1 mile E. Oblong, Crawford County	Comp.	1,200
Brenneman & MacDonell, Lima, Ohio	6 miles N. Oblong, Crawford County	Comp.	200
Kewanee Oil Co., Robinson	Crawford County (five plants, total)	Comp.	150
Kewanee Oil Co., Robinson	Lawrence County (two plants, total)	Comp.	150
Mahutska Oil Co., Robinson	Near Stoy	Comp.	500
Nolan & Lamberton, Oblong	Sec. 12-7-14, Crawford County	Comp.	.....
Ohio Oil Co., Oblong	Crawford County	Comp.	405
Ohio Oil Co., Oblong	Crawford County	Comp.	242
Ohio Oil Co., Oblong	Crawford County	Comp.	310
Ohio Oil Co., Robinson	Crawford County	Comp.	243
Ohio Oil Co., Hardinville	Crawford County	Comp.	756
Ohio Oil Co., Hardinville	Crawford County	Comp.	100
Ohio Oil Co., Stoy	Crawford County	Comp.	833
Ohio Oil Co., Oblong	Crawford County	Comp.	342
Ohio Oil Co., Oblong	Crawford County	Comp.	1,130
Ohio Oil Co., Oblong	Crawford County	Comp.	200
Ohio Oil Co., Bridgeport	Lawrence County	Comp.	1,050
Ohio Oil Co., Casey	Clark County	Comp.	1,150
Snowden & McSweeney Co., Bridgeport	Bridgeport	Comp.	800
Stranahan & Cheuvront, Oblong	Oblong	Comp.	20
Stranahan & Cheuvront, Oblong	Oblong	Comp.	20
Texas Co., Mattoon	Salem	Absp.	12,000
Vacuum Gasoline Co., Bridgeport	5 miles SE. Bridgeport	Comp.	1,000
Vacuum Gasoline Co., Bridgeport	5 miles NW. Bridgeport	Comp.	3,000
Vincennes Oil & Gas Co., Bridgeport	5 miles NW. Bridgeport	Comp.	1,000

KANSAS

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Aldon Gasoline Co., P.O. Box F, Haven	Sec. 5-25-4, Reno County	Absp.	10,000
Barnsdall Oil Co., Oxford	W½ NW Sec. 20-33-3, Cowley County	Absp.	12,000
Cities Service Oil Co., Arkansas City	S½ Sec. 13-34-3, Cowley County	Absp.	15,000
Cities Service Oil Co., Burrton	W½ Sec. 25-23-4, Reno County	Absp.	35,000
Cities Service Oil Co., Madison	NW¼ Sec. 8-23-11, Greenwood County	Absp.	9,000
Cities Service Oil Co., Haven	N½ SE Sec. 17-24-4, Reno County	Absp.	25,000
Cities Service Oil Co., Hamilton	SW¼ Sec. 16-23-9, Greenwood County	Absp.	10,000
Cities Service Oil Co., Wichita	NW¼ Sec. 17-28-1, Sedgwick County	Absp.	50,000
Kansas Power & Light Co., Topeka	Medicine Lodge	Absp.	10,000
Kansas Power & Light Co., Topeka	McPherson	Absp.	10,000
Northern Natural Gas Co., Hugoton	NW¼ Sec. 19-33n-36w, Stevens County	Absp.	15,000
Panhandle Eastern Pipe Line Co., Kansas City	Secs. 23 and 25-33s-32w, Seward County	Absp.	75,000
Shell Oil Co., Inc., Oxford	SE¼ Sec. 25-31s-2e, NW¼ Sec. 18-9s-6w	Comp.	2,500
Sinclair Prairie Oil Co., Box E, Kenbro	SW¼ Sec. 20-22-10e	Comp.	7,000
Skelly Oil Co., Cunningham	N½ NE Sec. 30-27s-10w, Kingman County	Absp.	4,000
Texas Co. (Del.), Houston, Tex.	SW SE Sec. 31-30s-6e, Cowley County	Absp.	7,770
Warren Petroleum Corp., McPherson	McPherson	Absp.	30,000

KENTUCKY

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Louisville Gas & Electric Co., Louisville	Winchester	Char.	1,500
Virginian Gasoline & Oil Co., Catlettsburg	Boyd County	Absp.	24,000
Virginian Gasoline & Oil Co., Kermit, W. Va.	Martin County	Absp.	10,000

ABBREVIATIONS

Absp.	Absorption	Char.	Charcoal
Comp.	Compression	V.R.	Vapor Rectification
C-A	Compression and Absorption		

ALKYLATION

BY BRAUN

We are authorized to announce that ALKYLATION is now available to the refining industry. The process will be licensed under the patents of Anglo-Iranian Oil Company, Shell Development Company, Standard Oil Company of New Jersey, and Texaco Development Corporation.

We are prepared to advise as to the economics of any particular application, to specify yields, to submit estimates of plant costs promptly, and to carry through plant design and construction with the greatest possible speed.

For the production of saturated high-octane aviation-gasoline, this process is unprecedented in three respects. The yields are extremely high. The operating costs are low. The return of capital investment is unusually quick.

The reaction involves alkylation of unsaturates with iso-paraffins in the presence of concentrated sulphuric acid. In this line of work, we have broad experience. We have, in fact, built most of the large and successful liquid-phase sulphuric-acid-hydrocarbon reaction-units in the Refining Industry.

C. F. BRAUN & CO.

ENGINEERS, MANUFACTURERS, CONSTRUCTORS

ALHAMBRA, CALIFORNIA

LOUISIANA

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Arkansas Fuel Oil Co., Shreveport	Sec. 7-17n-11E, Bossier Parish	Absp.	12,000
Arkansas Fuel Oil Co., Shreveport	Sec. 26-23n-16w, Carro Parish	Absp.	40,000
Arkansas Fuel Oil Co., Shreveport	Sec. 24-21n-8w, Claiborne Parish	Comp.	5,000
Arkansas Fuel Oil Co., Shreveport	Sec. 3-18n-4w, Lincoln Parish	Absp.	10,000
Coltexo Corp., Rodessa	Caddo Parish	Absp.	40,000
Continental Oil Co., Basile	NW¼ Sec. 28-7s-2w. Acadia Parish	Absp.	20,000
Continental Oil Co., Lake Charles	SW¼ Sec. 14-9s-8w, Calcasieu Parish	Absp.	7,000
East Texas Ref. Co., Rodessa	Rodessa townsite	Absp.	8,000
Glen Rose Gasoline Co., Rodessa	Sec. B-23n-16w, Caddo Parish	Absp.	30,000
Great National Oil Corp., Shreveport	Sec. 9-23-16, Rodessa field	Absp.	15,000
Gulf Refining Co., Mooringsport	Sec. 19-21-7, Claiborne Parish	Absp.	12,000
Gulf Refining Co., Mooringsport	Sec. 19-20-5, Caddo Parish	Absp.	5,000
Ohio Oil Co., Treat	Webster Parish	Absp.	2,000
Ohio Oil Co., Haynesville	Claiborne Parish	Absp.	2,000
Ohio Oil Co., Haynesville	Claiborne Parish	Absp.	2,000
Shell Oil Co., Inc., Iowa	NW¼ Sec. 18-9s-6w, Jefferson Davis Parish	Absp.	15,000
Stanolind Oil & Gas Co., Gilliam	Pine Island field	Comp.	2,000
Standard Oil Co. of La., Trees	Caddo field, near Trees	C-A	4,000
Standard Oil Co. of La., Homer	Homer field, Claiborne Parish	Comp.	4,680
Texas Co. (Del.), Houston, Tex.	Secs. 29 and 30-17s-24e, Jefferson Parish	Absp.	3,740
Tide Water Associated Oil Co., Tulsa	Rodessa field	Absp.	‡4,700
United Carbon Co., Inc., Monroe, La.	Sec. 33-19-5, Ouachita Parish	Absp.	*4,000
United Gas Pipe Line Co., Alto	Sec. 16-16n-6e, Richland Parish	Absp.	*30,000
United Gas Pipe Line Co., Cotton Valley	Sec. 17-21n-10w, Webster Parish	Absp.	20,000
United Gas Pipe Line Co., Rodessa	Sec. 14-21n-15w, Caddo Parish	Absp.	140,000
United Gas Pipe Line Co., Swartz	Sec. 32-19n-5e, Ouachita Parish	Absp.	*2,500
United Gas Pipe Line Co., Sugar Creek†	Sec. 6-19n-5w, Claiborne Parish	Absp.	30,000

*Shut down. †Owned jointly with Sugar Creek Syndicate, Inc., and Standard Oil Co. of Louisiana. ‡75 per cent interest.

MICHIGAN

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Grimes, Otha M., Mount Pleasant	Greendale field	C-A	10,000
Grimes, Otha M., Mount Pleasant	Yost field	C-A	7,500
Grimes, Otha M., Mount Pleasant	Sherman field	C-A	5,000

MONTANA

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Glacier Production Co., Butte	Cut Bank County	Absp.	16,000

NEW MEXICO

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Continental Oil Co., Hobbs	SE¼ Sec. 19-18s-38e, Lea County	Absp.	25,000
El Paso Natural Gas Co., El Paso, Tex.	Jal	Absp.	27,000
Phillips Petroleum Co., Eunice	NE¼ Sec. 5-21-36, Lea County	Absp.	25,000
Phillips Petroleum Co., Hobbs	N½ NW Sec. 4-19-38, Lea County	Absp.	40,000
Skelly Oil Co., Eunice	N½ SW Sec. 27-22s-37e, Lea County	Absp.	23,000
Warren Petroleum Corp., Monument	Sec. 36-19s-36e	Absp.	60,000

OHIO

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Ohio Producing & Refining Co., Cleveland	Sec. 22, Chippewa Twp., Wayne County	Char.	5,000
Hope Construction & Refining Co., Pittsburgh	New Matamoras	Absp.	1,200
Pittsburg Oil & Gas Co., Schley	Archers Fork	Comp.	150
Pittsburg Oil & Gas Co., Sycamore Valley	Sycamore Valley	Comp.	150
Preston Oil Co., Elk	Stock Twp., Noble Co.	Absp.	2,000
Preston Oil Co., York	York Twp., Medina Co.	Absp.	5,000
Preston Oil Co., Pavonia	Weller Twp., Richland Co.	Absp.	10,000
Prestin Oil Co., Sugar Grove	Berne Twp., Fairfield Co.	Absp.	9,000
Preston Oil Co., Homer	Burlington Twp., Licking County	Absp.	15,000
Reno Oil Co., Sistersville, W. Va.	Monroe County	Comp.	60
Tyler Oil Co., Sistersville, W. Va.	Monroe County	Comp.	40

OKLAHOMA

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Akin Gasoline Co., Tulsa	Bixby	Comp.	300
Akin Gasoline Co., Tulsa	Dewey	Comp.	300
Bartlett Gasoline Co., Butler	3 mi. S. Butler	Absp.	9,000
Barnsdall Oil Co., Avant	SW NW SE Sec. 18-23-12, Osage County	Absp.	3,000
Barnsdall Oil Co., Turley	SE¼ Sec. 5-20-13, Osage Co.	Absp.	1,500
Barnsdall Oil Co., Beggs	N½ of NE Sec. 6-14-12, Okmulgee County	Absp.	2,500
Barnsdall Oil Co., Earlsboro	NE NE Sec. 15-9-5, Seminole County	Absp.	25,000
Carter Oil Co., Seminole	SE SE Sec. 15-9n-6e	Absp.	36,000
Carter Oil Co., Cromwell	NW NW Sec. 3-10n-8e	Absp.	22,000
Carter Oil Co., Fittstown	SW SE Sec. 30-2n-7e	Absp.	60,000
Central States Production Corp., Wetumka	Sec. 21-9-10, Hughes Co.	Absp.	2,500
Chase Gasoline Co., Sistersville, W. Va.	Muskogee County	Comp.	1,000
Chase Gasoline Co., Sistersville, W. Va.	Muskogee County	Comp.	1,000
Cities Service Oil Co., Wanette	NE¼ Sec. 22-6-3, Pottawatomie County	Absp.	7,000
Cities Service Oil Co., Wewoka	NW¼ Sec. 19-7-8, Seminole County	Comp.	6,000
Cities Service Oil Co., Seminole	SE¼ Sec. 24-9-6, Seminole County	Absp.	25,000
Cities Service Oil Co., Konawa	NW¼ Sec 9-6-6, Seminole County	Absp.	12,000
Cities Service Oil Co., Seminole	SW¼ Sec. 14-8-6, Seminole County	Absp.	25,000
Cities Service Oil Co., Seminole	NE¼ Sec. 11-8-5, Seminole County	Comp.	9,000
Cities Service Oil Co., Sasakwa	SE¼ Sec. 7-6-8, Seminole County	Absp.	25,000
Cities Service Oil Co., Tallant	SE¼ Sec. 35-25-10, Osage County	Absp.	20,000
Continental Oil Co., Billings	SW NW Sec. 21-23n-2w, Noble County	Absp.	20,000
Crosbie, J. E., Inc., Fittstown	Sec. 30-2n-7e, Pontotoc County	Absp.	50,000
Deep Rock Oil Corp., Tulsa	Sec. 9-18-5, Payne Co.	Comp.	1,000
Devonian Oil Co., Kellyville	Sec. 22-17-10, Creek Co.	Absp.	20,000
Eason Oil Co., Enid	SW¼ Sec. 24-17n-4w, Crescent field	Absp.	
Grimes, Otha H., and Charles W., Tulsa	Weleetka	Absp.	5,000
Grimes, Otha H., and Charles W., Tulsa	Okemah	Absp.	3,000
Grimes, Otha H., and Roy O. Neal, Drumright	Sec. 17-17n-7e	Absp.	4,200
Grimes, Otha H., Wetumka	Wetumka	Absp.	5,000
Gulf Oil Corp., Tulsa	Sec. 16-17-12, Creek Co.	Comp.	18,000
Gulf Oil Corp., Tulsa	Sec. 1-21-7, Osage Co.	Comp.	1,800
Gulf Oil Corp., Tulsa	Sec. 24-27-5, Osage Co.	Absp.	11,000
Gulf Oil Corp., Tulsa	Sec. 3-14-8, Creek Co.	Absp.	2,400
Gulf Oil Corp., Tulsa	Sec. 14-7-6, Seminole County	Absp.	13,000
Gulf Oil Corp., Tulsa	Sec. 7-8-6, Seminole Co.	Absp.	27,000
Indian Territory Ill. Oil Co., Bartlesville	SW¼ Sec. 19-11-2	Absp.	20,000
Indian Territory Ill. Oil Co., Bartlesville	Bodine, SE¼ Sec. 24-11-3, Oklahoma County	Absp.	20,000
Indian Territory Ill. Oil Co., Bartlesville	Verne, SE¼ Sec. 13-11-3 Oklahoma County	Absp.	20,000
Indian Territory Ill. Oil Co., Bartlesville	Jones, NE¼ Sec. 31-11-2, Oklahoma County	Absp.	20,000
Indian Territory Ill. Oil Co., Bartlesville	Lemmon, SE¼ Sec. 11-11-3, Oklahoma County	Absp.	20,000
Lone Star Gas Co., Hollis	4 mi. NW. Hollis	Absp.	12,000
Magnolia Petroleum Co., Dallas, Tex.	Sec. 6-19n-6e, Payne Co.	Absp.	2,500
Magnolia Petroleum Co., Dallas, Tex.	Sec. 34-15n-5e, Lincoln County	Absp.	3,600
Magnolia Petroleum Co., Dallas, Tex.	Sec. 7-18n-7e, Creek Co.	Absp.	18,000
Magnolia Petroleum Co., Dallas, Tex.	Sec. 3-16n-7e, Creek Co.	Absp.	*6,500
Magnolia Petroleum Co., Dallas, Tex.	Sec. 23-2s-3w. Carter Co.	Absp.	4,600
Magnolia Petroleum Co., Dallas, Tex.	Sec. 32-8n-8e, Seminole Co.	Absp.	4,000
Magnolia Petroleum Co., Dallas, Tex.	Sec. 15-7n-4e, Pottawatomie County	Absp.	10,000
Magnolia Petroleum Co., Dallas, Tex.	Sec. 21-2n-9e, Pontotoc County	Absp.	30,000
McBride, W. C., Inc., Avant	Sec. 18-23-12, Osage Co.	Comp.	1,500
Mid-Continent Petroleum Corp., Tulsa	SE SE Sec. 22-17-7	Absp.	20,000
Mid-Continent Petroleum Corp., Tulsa	E½ NW Sec. 5-16-15	Comp.	5,000
Mid-Continent Petroleum Corp., Tulsa	SW¼ Sec. 12-13-13	Absp.	3,000
Mid-Continent Petroleum Corp., Tulsa	NE SW Sec. 15-10-8	Absp.	50,000
Mid-Continent Petroleum Corp., Tulsa	S½ SE Sec. 28-17-14	Comp.	1,000
Mid-Continent Petroleum Corp., Tulsa	NW¼ Sec. 8-15-6	Absp.	3,000
Neal Gasoline Co., Osage	Sec. 13-21-8	Absp.	4,300
O. K. Supply Co., Tulsa	Sec. 4-17-11e, Creek Co.	Comp.	1,000
Oklahoma Gasoline Plants, Inc., Sapulpa	Sec. 18-18-7e	C-A	10,000
Oklahoma Utilities Co., Bristow	Sec. 20-16n-9e	Absp.	5,000
Peppers Gasoline Co., Oklahoma City	Lucien field, Noble Co.	Absp.	*15,000
Peppers Gasoline Co., Oklahoma City	Oklahoma City field	Absp.	35,000
Peppers Gasoline Co., Oklahoma City	Enid	Absp.	*5,000
Peppers Gasoline Co., Oklahoma City	Oklahoma City field	Absp.	10,000
Phillips Petroleum Co., Oklahoma City	NW SW Sec. 32-11-2w	Absp.	100,000
Phillips Petroleum Co., De Noya	NE NE Sec. 26-27-5, Osage County	Absp.	45,000
Phillips Petroleum Co., Edmond	W½ SE Sec. 31-14-3w, Oklahoma County	Absp.	40,000
Phillips Petroleum Co., Eleven-Eleven	SE NW Sec. 24-11-11, Okfuskee County	Absp.	17,000
Phillips Petroleum Co., Lima	NW NW Sec. 23-7-6, Seminole County	Absp.	20,000
Phillips Petroleum Co., Oklahoma City	S½ Sec. 1-11-3, Oklahoma County	Absp.	200,000
Phillips Petroleum Co., Reserve	SE¼ Sec. 16-24-7, Osage County	C-A	35,000
Phillips Petroleum Co., Wewoka	SW NW Sec. 38-8-8, Seminole County	Absp.	30,000
Phillips Petroleum Co., Wetumka	N½ NW Sec. 3-9-9, Hughes County	Absp.	20,000
Pioneer Corp., Tulsa	Kiefer	Absp.	2,500
Pioneer Corp., Tulsa	Bixby	Comp.	1,500
Powers, M. F., Depew	Sec. 8-15n-8e, Creek Co.	Absp.	4,000
Pure Oil Co., Drumright	Sec. 32-18n-7e	Comp.	9,900
Pure Oil Co., Oilton	Sec. 32-19n-7e	Comp.	4,600
Pure Oil Co., Seminole	Sec. 26-9n-6e	Comp.	19,300
Shell Oil Co., Inc., Wolco	E½ Sec. 24-24n-11e	Absp.	10,000
Shell Oil Co., Inc., Drumright	NE¼ Sec. 8-17n-7e	Absp.	15,000
Shell Oil Co., Inc., Orlando	SW¼ Sec. 17-20n-2w	Absp.	30,000
Shell Oil Co., Inc., Wilson	NE¼ Sec. 8-4s-3w	Comp.	4,000
Shell Oil Co., Inc., Tonkawa	SW¼ Sec. 21-29n-1w	Absp.	6,000
Shell Oil Co., Inc., Tonkawa	NE¼ Sec. 2-23n-1w	Absp.	10,000
Shell Oil Co., Inc., Marshall	SE¼ Sec. 19-19n-4w	Absp.	*7,500
Shell Oil Co., Inc., Maud	SE¼ Sec. 7-8n-5e	Absp.	15,000
Shell Oil Co., Inc., Wilson	SW¼ Sec. 22-4s-2w	Absp.	10,000
Sinclair Prairie Oil Co., Drumright	SW SW Sec. 28-18-7	Absp.	25,000
Sinclair Prairie Oil Co., Shamrock	SW SE Sec. 28-17-7	Comp.	15,000
Sinclair Prairie Oil Co., Covington	W½ SW Sec. 19-22-3	Absp.	20,000
Sinclair Prairie Oil Co., Shidler	SW SE Sec. 29-27-6	Absp.	30,000
Sinclair Prairie Oil Co., Seminole	NW NW Sec. 35-9-6	Absp.	70,000
Sinclair Prairie Oil Co., Seminole	SW NE Sec. 10-8-6	Absp.	50,000
Sinclair Prairie Oil Co., St. Louis	SW Sec. 24-7-4	C-A	60,000
Sinclair Prairie Oil Co., Oklahoma City	SE NW Sec. 30-11-2	Absp.	50,000
Skelly Oil Co., Rt. 2, Fairfax No. 1	S½ NW Sec. 10-25n-6e, Osage County	Absp.	22,000
Skelly Oil Co., Rt. 2, Fairfax No. 2	N½ SW Sec. 3-25n-6e, Osage County	Absp.	21,000
Skelly Oil Co., Lyman	NW¼ Sec. 11-27n-6e, Osage County	Comp.	7,000
Skelly Oil Co., Rt. 2, Jennings	SW NW Sec. 15-20n-6e, Pawnee County	Absp.	2,000
Skelly Oil Co., Carter Nine	NW NW Sec. 9-26n-6e, Osage County	Absp.	24,000
Skelly Oil Co., Box 511, Seminole	SW NW Sec. 17-9n-6e, Seminole County	Absp.	15,000
Skelly Oil Co., Box 168, Slick	NW¼ Sec. 15-15n-10e, Creek County	Absp.	2,000
Skelly Oil Co., Box 413, Wynona	SW¼ Sec. 24-24n-9e, Osage County	Absp.	2,500
Texas Co. (Del.), Houston, Tex.	NE¼ Sec. 30-25n-8e, Osage County	Absp.	7,960
Texas Co. (Del.), Houston, Tex.	SE SE Sec. 2-14n-5e, Lincoln County	Absp.	20,280
Texas Co. (Del.), Houston, Tex.	W½ NW Sec. 8-17n-12e Creek County	Comp.	19,720
Tide Water Associated Oil Co., Drumright	Drumright	Absp.	15,000
United Carbon Co., Inc., Charleston, W. Va.	Beckham County	Absp.	1,000
Victor Gasoline Corp., Bristow	Sec. 27-16-9e	Absp.	5,000
Victor Gasoline Corp., Stroud	Sec. 12-15-6e	Absp.	2,500
Warren Petroleum Co., Maud	Maud	Absp.	25,000
Warren Petroleum Co., Healdton	Healdton	Absp.	20,000
Warren Petroleum Co., Oklahoma City	Sec. 20-11n-2w	Absp.	15,000
Warren Petroleum Co., Ada	Ada	Absp.	60,000
Warren Petroleum Co., Box 312, Holdenville	4 mi. W. Holdenville	Comp.	*15,000
Wentz, L. H., Oil Division, Ponca City	Sec. 17-28n-1e	Absp.	2,500
Westoak Gasoline Co., Box 507, Sayre	Sec. 2-19n-23w	Absp.	15,000
Wright, Rosa B., Sapulpa	Kellyville	Absp.	5,000

*Shut down.

PENNSYLVANIA

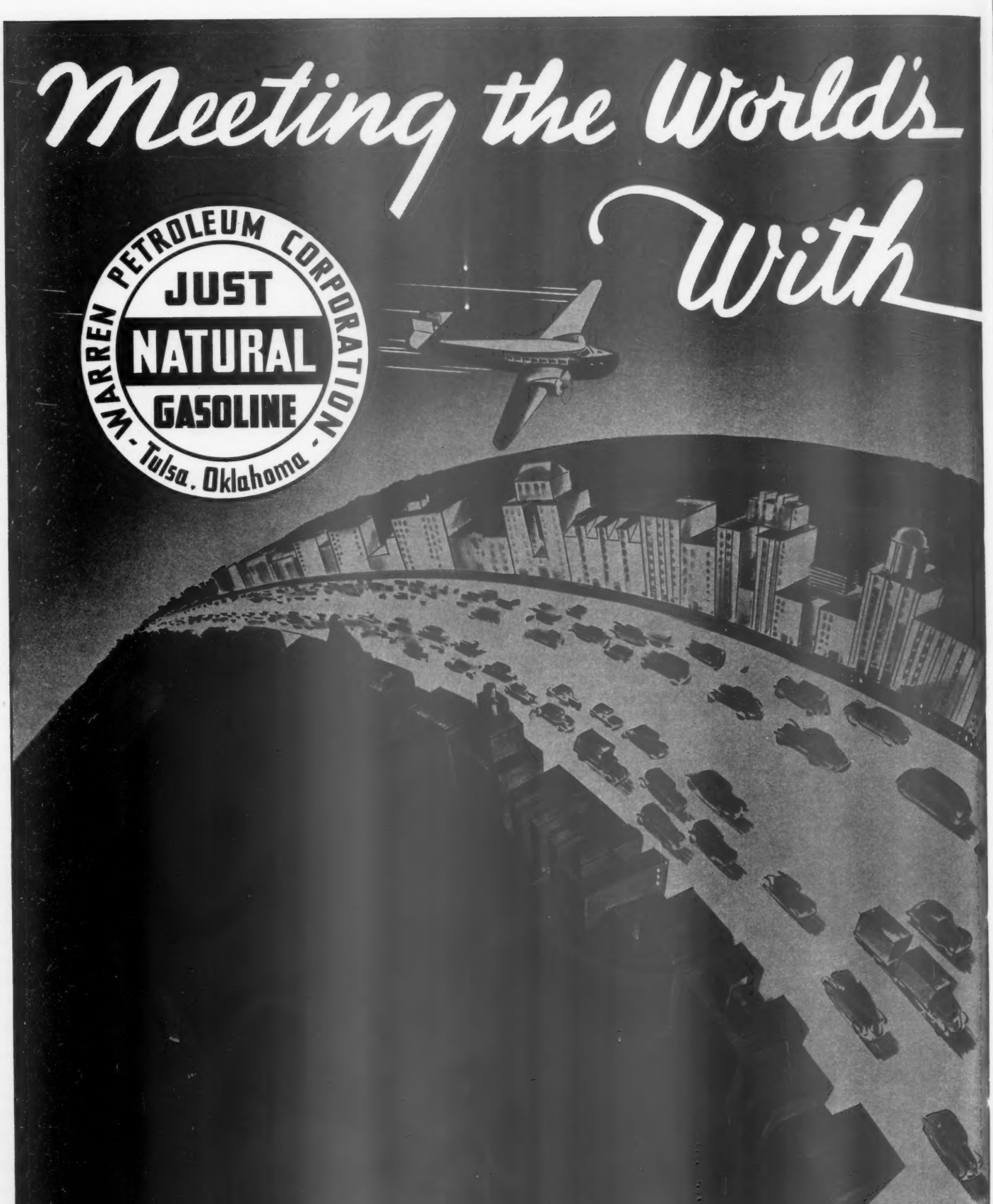
Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Alum Rock Gas Co., Port Allegany	Fern, Clarion County	Comp.	500
Bayliss & Fasenmeyer, Titusville	Titusville, 2 mi. S	Comp.	500
Carpenter, M. A., Karns City	Fairview Twp.	Comp.	200
Carnegie Natural Gas Co., Lone Pine	Washington Co.	Absp.	1,000
Carnegie Natural Gas Co., Waynesburg	Greene Co.	Absp.	4,500
Clinger Oil & Gas Co., Tidioute	Fagundus, Triumph Twp., Warren Co.	Comp.	1,000
Clinger Oil & Gas Co., Tidioute	Hastings, Howe Twp., Forest Co.	Comp.	1,000
Cochran, John G., & Co., Sheffield	Lot 438, Sheffield Twp.	Absp.	1,100
Cook Oil Lease, Kellettville	Forest Co.	Comp.	1,500
Daugherty, C. R., Butler	Herman, Butler Co.	Comp.	25
Daugherty, C. R., & Co., Butler	Oakdale, Allegany Co.	Comp.	70
Daugherty, C. R., and M. G., Butler	Petrolia, Butler Co.	Comp.	30
Dempseytown Gas Co., Port Allegany	Clarion Co.	Comp.	265
Edwards, E. A., Titusville	Titusville	Comp.	170
Eiswerth, Hefron & Co., Lucinda	Lucinda	Comp.	*400
Eiswerth, Hefron & Co., Arthur	Lucinda	Comp.	*400
Ellenburger, W. J., & Sons, Karns City	Karns City	Comp.	300
Elliott Brothers, Chicora	Chicora	Comp.	500
Equitable Gas Co., Rogersville	Center Twp., Greene Co.	Absp.	10,000
Equitable Gas Co., Clarksville	Deemston Twp., Washington Co.	Comp.	2,000
Fleming, J. E., Titusville	Grand Valley	Comp.	500
Forest Chemical Co., Sheffield	Sheffield Twp.	Absp.	*300
Gould, Nancy E., & Son, Butler	Penn. Twp., Butler Co.	Comp.	3
Hickey & Rieg, Clarendon	Henry's Mill	Comp.	300
Haskell Bros., Pleasantville	Southwest Twp., Warren Co.	Comp.	100
Haskell, Roth & Bayliss, Tidioute	Triumph Twp., Warren Co.	Comp.	1,000
Hope Construction & Refining Co., Brave	Brave	Absp.	20,000
Hope Construction & Refining Co., Imperial	Imperial	Char.	3,600
Jennings, E. H., Bros. Co., Pittsburgh	Fayette Twp., Allegheny Co.	Comp.	1,000
Jennings, E. H., Bros. Co., Pittsburgh	Fayette Twp., Allegheny Co.	Comp.	150
Jennings, E. H., Bros. Co., Pittsburgh	Wetzel Co.	C-A	1,000
Jennings, E. H., Bros. Co., Pittsburgh	Wetzel Co.	C-A	100
Mars Co., The, c/o Hampton Station, Oil City	Pinegrove Twp., Venango Co.	Absp.	4,000
Mars Co., The Lewis Run	Lewis Run	Absp.	*6,500
Mars Co., The, Van	Van	Absp.	7,500
Mars Co., The, Clarion	Paint Twp., Clarion Co.	Absp.	*1,800
Mars Co., The, East Hickory	Hickory Twp., Forest Co.	Absp.	*1,500
Moore, Way & Harrison, Titusville	Titusville	Comp.	100
North Penn Gas Co., Port Allegany	Sharon	Absp.	*600
Pittsburgh Oil & Gas Co., Pittsburgh	Clarion	Comp.	150
Pittsburgh Oil & Gas Co., Pittsburgh	Miola	Comp.	150
Pittsburgh Oil & Gas Co., Pittsburgh	Fairview Twp., Butler Co.	Comp.	50
President Oil Co., Emlenton	Bruin, 2 mi. W	Comp.	50
President Oil Co., Emlenton	Emlenton, 2 mi. SW	Comp.	50
President Oil Co., Emlenton	Fryburg, 6 mi. N	Comp.	500
Ramage, S. Y., Oil City	Warren Co.	C-A	8,000
Red Brush Oil Co., Tidioute	Near Tionesta	Comp.	40
Red Brush Oil Co., Tidioute	7 mi. S Tionesta	Comp.	40
Riddle Farm Oil Co., Karns City	Karns City, ½ mi. S	Comp.	50
Ritzert Bros., Chicora	Chicora	Comp.	70
Say, George K., Estate, Karns City	Perry Twp., Armstrong Co.	Comp.	35
Sloan & Zook Co., Kane	McKean Co.	Absp.	1,500
South Penn Oil Co., Pittsburgh	Titusville	Comp.	100
South Penn Oil Co., Pittsburgh	President	Comp.	500
South Penn Oil Co., Pittsburgh	South Heights	Comp.	550
South Penn Oil Co., Pittsburgh	Bradford	Comp.	550
South Penn Oil Co., Pittsburgh	Chicora	Comp.	150
South Penn Oil Co., Pittsburgh	Chaffee	Comp.	25
South Penn Oil Co., Pittsburgh	Parker	Comp.	100
South Penn Oil Co., Pittsburgh	Freeport	Absp.	600
South Penn Oil Co., Pittsburgh	Guffey	Comp.	150
South Penn Oil Co., Pittsburgh	Washington	Comp.	100
South Penn Oil Co., Pittsburgh	Taylorstown	Comp.	100
South Penn Oil Co., Pittsburgh	Evans City	Comp.	150
South Penn Oil Co., Pittsburgh	Evans City	Comp.	*450
South Penn Oil Co., Pittsburgh	Evans City	Comp.	*125
South Penn Oil Co., Pittsburgh	Pleasantville	Comp.	300
South Penn Oil Co., Pittsburgh	Porcupine	Comp.	650
South Penn Oil Co., Pittsburgh	Baden	Comp.	*50
South Penn Oil Co., Pittsburgh	Sturgeon	Comp.	1,500
South Penn Oil Co., Pittsburgh	Evans City	Comp.	25
South Penn Oil Co., Pittsburgh	Tiona	Comp.	450
South Penn Oil Co., Pittsburgh	Henrys Mills	Comp.	300
South Penn Oil Co., Pittsburgh	Hooker	Comp.	100
South Penn Oil Co., Pittsburgh	Noblestown	Comp.	1,600
South Penn Oil Co., Pittsburgh	Noblestown	Comp.	125
Success Oil Co., Titusville	Pioneer	Comp.	1,500
Surety Oil Co., Titusville	Titusville	Comp.	1,000
Tarbell & Co., Grand Valley	Grand Valley	Comp.	80
Thomas, R. L., Tidioute	Triumph Twp., Warren Co.	Vac.	200
Tompsett Bros., Tidioute	Triumph Twp., Warren Co.	Vac.	200
Triangle Co., McKees Rocks	Coraopolis	Comp.	...
Triumph Petroleum Co., Tidioute	2 mi. W Tidioute, Warren Co.	Comp.	150
Wahl, A. R., Evans City	Foward Twp.	Comp.	165
Warner-Caldwell Oil Co., Titusville	2 mi. N Titusville	Comp.	1,000

*Shut down.

TEXAS

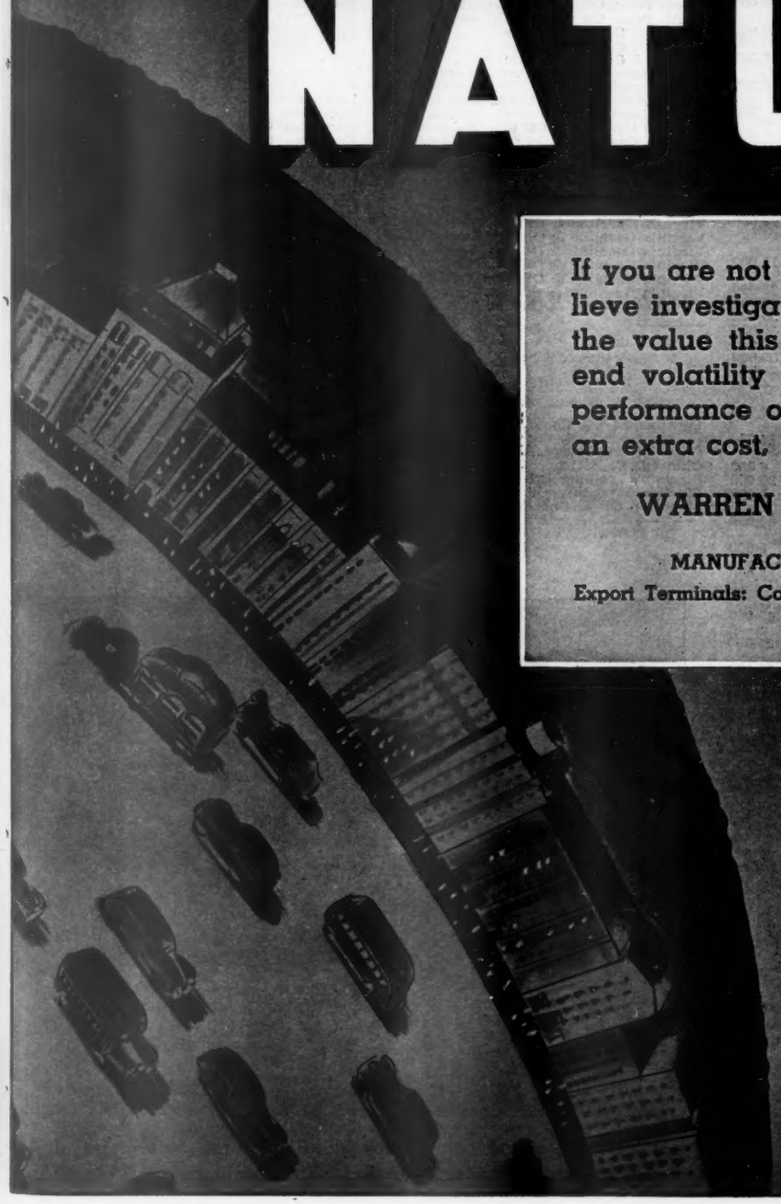
Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Agua Dulce Co., The, Robstown	Banquete	Absp.	40,000
Airolene Gasoline Corp., Shamrock	E. Panhandle, Magic City	Comp.	2,000
Anzac Oil Corp., Coleman	M. T. Overall Lse., C.H.&H. R.R. Sur. 12, Blk. 1, Coleman Co.	Comp.	600
Arab Gasoline Corp., Eastland	Eastland-Ranger dist.	Absp.	25,000
Arkansas Fuel Oil Co., Shreveport, La.	Smith Lse., Castleberry Hrs., Gregg Co.	Absp.	60,000
Arkansas Fuel Oil Co., Shreveport, La.	Bayless Lse., Hanks Hrs., Marion Co.	Absp.	15,000
Arkansas Fuel Oil Co., Smithland	Marion Co.	Absp.	10,000
B-W Gasoline Co., Livingston	Schwab field, Polk Co.	Absp.	4,000
Barnsdall Oil Co., Odessa	SW¼ Sec. 18-42-2s, Ector Co.	Absp.	16,000
Big Lake Oil Co., Texon	Sec. 2, Blk. 2, Reagan Co.	Absp.	50,000
Buckeye Natural Gasoline Corp., Tulsa	Magic City	Absp.	15,000
Cabot Carbon Co., Wickett	S½ NE Sec. 3, Univ. Ld., Blk. 16, Ward Co.	Absp.	25,000
Cabot Carbon Co., Kermit	S½ NE Sec. 3, Public Sc. Ld., Blk. B-3, Winkler Co.	Absp.	15,000
Canadian River Gas Co. Channing	Bivin Sta., Moore Co.	Absp.	30,000
Cannon Gasoline Co., Amarillo	2 mi. N Amarillo	Comp.	5,000
Cargray Corp., Amarillo	Sec. 46, Blk. 4, I.&G.N.R.R. Sur., Carson Co.	Absp.	100,000
Cities Service Oil Co., Odessa	SE SE Sec. 34, Blk. 43, T. 1n., Ector Co.	Absp.	35,000
Cities Service Oil Co., Pampa	N½ Sec. 136, Blk. 3, I.&G. N. Sur., Gray Co.	Absp.	30,000
Clymore Co., Inc., Refugio	Refugio	Absp.	30,000
Coltexo Corp., Lefors	Gray Co.	Absp.	40,000
Columbian Gasoline Corp., Shamrock	Shamrock	Absp.	5,000
Consolidated Gasoline Co., Cisco	1 mi. S Eastland	Absp.	12,000
Continental Oil Co. K.M.A. plant, Electra	Wichita Co.	Comp.	40,000
Cosden Petroleum Corp., Fort Worth	Sewell Lse., E of Graham	Absp.	6,000
Danciger Oil & Refineries, Inc., Fort Worth	Danciger	Absp.	40,000
Danciger Oil & Refineries, Inc., Fort Worth	Lefors	Absp.	20,000
Darby Lynde Co., Electra	Near Electra	Comp.	3,000
Deep Oil Development Co., Wichita Falls	Wilson Est., A.T.N.C. Lds., Blk. 119, Archer Co.	Comp.	4,000
Deep Oil Development Co., Wichita Falls	Munger Lse., Wichita Co.	Comp.	4,000
Del Rey Petroleum Co., Houston	Liberty Co.	Absp.	10,000
Desdemona Gasoline Co. of Tex., Desdemona	Eastland Co.	Absp.	3,000
Duval Gasoline Co., Benavides	Duval Co.	Absp.	20,000
General American Oil Co., Dallas	Gladewater	Comp.	20,000
Gladewater Gasoline Co., Gladewater	Gladewater	Comp.	10,000
Graham Oil & Gasoline Corp., Graham	Morrison farm	Absp.	8,000
Gregg-Tex Gasoline Corp., Longview	10 mi. from Longview	Comp.	125,000
Gulf Refining Co., Monahans	Ward Co.	Absp.	25,000
Gulf Refining Co., Overton	Overton	Comp.	15,000
Hanlon Gasoline Co., Tulsa	2 mi. S Breckenridge	Absp.	60,000
Hanlon Gasoline Corp. of Texas, Tulsa	4 mi. NE Gladewater	Comp.	150,000
Henderson, F. C., and E. P., Sanford	Hutchinson Co.	Absp.	50,000
Hercules Gasoline Co., Kilgore	Mary Van Winkle Sur., SE portion of 93.5-ac., Gregg Co.	Comp.	60,000
Huber Corp., J. M., Borger	Sec. 28, A.&B. Sur., Hutchinson Co.	Absp.	30,000
Humble Oil & Ref. Co., Overton	4 mi. NE Overton	V.R.	†11,700
Humble Oil & Ref. Co., Conroe	5½ mi. SE Conroe	C-A	†12,500
Humble Oil & Ref. Co., Dickinson	2½ mi. E Dickinson	A	†25,000
Humble Oil & Ref. Co., Corpus Christi	Flour Bluff, 12 mi. E Dickinson	A	†15,000
Humble Oil & Ref. Co., Bloomington	Heyser, 3 mi. SE Bloomington	A	†25,000
Humble Oil & Ref. Co., Overton	East Texas, 2½ mi. SE Kilgore	C-A	†7,000
Humble Oil & Ref. Co., Neches	Boggy Creek, 4 mi. N Neches	C-A	†2,000
Humble Oil & Ref. Co., Overton	East Texas, 3 mi. SE Overton	C-A	†16,000
Humble Oil & Ref. Co., Bellville	Raccoon Bend, 8 mi., SW Bellville	C-A	†7,000
Humble Oil & Ref. Co., Breckenridge	Cross Cut, 7 mi. W Rising Star	C-A	†3,000
Humble Oil & Ref. Co., Tomball, Tex.	Tomball, 2 mi. SW Tomball	C-A	†35,000
La Salle Petroleum Co., Burkburnett	Burkburnett	Comp.	*5,000
Lisbon Gasoline Co., Inc., Shreveport, La.	Cadena Sur., E. E. Moores Lse., Rusk Co.	Absp.	35,000
Lisbon Gasoline Co., Inc., Shreveport, La.	Brown Sur., W. T. Grissom Lse., Rusk Co.	Absp.	25,000
Lone Star Gas Co., Sipe Springs	8 mi. from Rising Star	Comp.	1,000
Lone Star Gas Co., Gordon	2 mi. E Gordon	Absp.	15,000
Lone Star Gas Co., Cisco	7 mi. SE Moran	Absp.	5,000
Lone Star Gas Co., Petrolia	3 mi. S Petrolia	Absp.	15,000
Lone Star Gas Co., Trinidad	2 mi. SE Trinidad	Absp.	30,000
Lone Star Gas Co., Ranger	9 mi. S Ranger	Comp.	1,000
Lone Star Gas Co., Ranger	Ranger (3)	Absp.	70,000
Lone Star Gas Co., Ranger	Eastland	Absp.	6,500
Lone Star Gasoline Co., Breckenridge	Breckenridge	Absp.	40,000
Magnolia Petroleum Co., Dallas	Sec. 17, Blk. 13, H.&T.C. Sur., Wilbarger Co.	Comp.	5,000
Magnolia Petroleum Co., Dallas	Wm. Dubose Sur., Wichita Co.	Comp.	4,000
Magnolia Petroleum Co., Dallas	Matt Finch Sur., Eastland Co.	Absp.	5,000
Magnolia Petroleum Co., Dallas	Smelzer Sur., Eastland Co.	Comp.	4,500
Magnolia Petroleum Co., Dallas	Sec. 91, Blk. 4, I.&G.N. Sur., Carson Co.	Comp.	4,500
Magnolia Petroleum Co., Dallas	Sec. 30, Blk. B-2, H.&G.N. Sur., Gray Co.	Comb.	9,500
Magnolia Petroleum Co., Dallas	Sec. 152, Blk. 3, H.&G.N. Sur., Gray Co.	Absp.	9,000
Magnolia Petroleum Co., Dallas	Sec. 170, Blk. 3, T.&N.O. Sur., Moore Co.	Absp.	20,000
Manhattan Gasoline Co., Sinton	Sec. 1, Blk. 26, Public Sch. Lds., Winkler Co.	Absp.	18,000
Mid-Co Oil & Ref. Co., Corsicana	Plymouth, San Patricio Co.	Absp.	30,000
Midland Gasoline Co., The, Conroe	Cayuga field, Henderson Co.	Absp.	10,000
Mockley Petroleum Co., Fry	Montgomery Co.	Absp.	20,000
Natural Gasoline Corp., Aransas Pass	Brown Co.	Absp.	16,000
Nine Oaks Gasoline Corp., Electra	T. P. McCampbell subd. Gladewater	Absp.	60,000
Ohio Oil Co., Eliasville	Stephens Co.	Absp.	15,000
Ohio Oil Co., Eliasville	Stephens Co.	Absp.	10,000
Parade Gasoline Co., Inc., Shreveport, La.	C. C. & J. E. Giles Lse., Joiner area, Rusk Co.	C-A	125,000
Phillips Petroleum Co., Bowers	W½ Sec. 62, H.&G.N. Sur., Blk. B-2, Gray Co.	Absp.	50,000
Phillips Petroleum Co., Canadian	NW SE Sec. 1, Blk. X02, Hutchinson Co.	Absp.	20,000
Phillips Petroleum Co., Carson	W C Sec. 115, I.&G.N. Sur., Blk. 5, Carson Co.	Absp.	20,000
Phillips Petroleum Co., Eliasville	6.88-ac., N½ Sur. No. 1174, T.E.&L. Sur., Stephens Co.	Absp.	12,000
Phillips Petroleum Co., Goldsmith	SE¼ Sec. 33, Blk. 44, Twp. 1n, T.&P. Sur., Public Sc. Lds., Ector Co.	Absp.	35,000
Phillips Petroleum Co., Gray	E½ Sec. 32, H.&G.N. Sur., Blk. 2, Gray Co.	Absp.	100,000
Phillips Petroleum Co., Frankell	5 ac., SE SW Sec. 51, T.&P. Sur., Blk. 6, Stephens Co.	Absp.	8,500
Phillips Petroleum Co., Herron City	SE 20, P. J. Humphrey Sur., 153 ac., Young Co.	Absp.	9,000
Phillips Petroleum Co., Ibex	NW¼ Sec. 28, B.A.L., Shackelford Co.	Absp.	20,000
Phillips Petroleum Co., Johnson	Cen. 60 ac., S½ Sec. 69, Blk. 46, H.&T.C. Sur., Hutchinson Co.	Absp.	50,000
Phillips Petroleum Co., Judkins	West 60 ac., N½ S½ Sec. 1, Univ. Ld., Blk. 35, Ecto Co.	Absp.	40,000
Phillips Petroleum Co., Lefors	NE NE Sec. 56, Blk. 25, H.&G.N. Sur., Gray Co.	Absp.	15,000
Phillips Petroleum Co., Lodi	NE cor. Wm. R. Myers Sur., Cass Co.	Absp.	40,000
Phillips Petroleum Co., Mankins	E 60 ac. of S 120 ac., Blk. 38, Chas. A. Mangold subd. of Lazuras ranch, P. Castleman Sur., Wichita Co.	Comp.	15,000
Phillips Petroleum Co., McCamey	NE NE Sec. 216, C.C.S.D.& R.G.N.G. Sur., Blk. F, Crane Co.	Absp.	30,000
Phillips Petroleum Co., North	SW Sec. 35 & NW Sec. 36, I.&G.N. Sur., Blk. 3, Gray Co.	Absp.	60,000

(Continued on Page 102)


Meeting the World's With
WARREN PETROLEUM CORPORATION
JUST
NATURAL
GASOLINE
Tulsa, Oklahoma

Gasoline Needs

WARREN'S STABILIZED NATURAL



If you are not a user of Natural Gasoline, we believe investigation and a series of tests will prove the value this product has to improve the front end volatility and likewise increase the Octane performance of your finished motor fuel — not at an extra cost, but at a saving.

WARREN PETROLEUM CORPORATION
Tulsa, Oklahoma
MANUFACTURERS, EXPORTERS AND MARKETERS
Export Terminals: Corpus Christi, Port Arthur and Norsworthy, Houston, Texas; Marcus Hook, Pa.

JUST NATURAL GASOLINE

Company and plant address—	Field location	Type of plant	Daily cap'y (gals.)
Phillips Petroleum Co., Pampa.	W½ SW Sec. 88, H.&G.N. Sur., Blk. B-2, Gray Co.	Absp.	60,000
Phillips Petroleum Co., Panhandle	SW¼ Sec. 113, I.&G.N.R. R. Sur., Blk. 5, Carson Co.	Absp.	15,000
Phillips Petroleum Co., Pantex	SE cor. Mary Whitley Sur., Blk. 8, Hutchinson Co.	Absp.	50,000
Phillips Petroleum Co., Pioneer	W C part W. A. Eaken 132-ac. tr., Eastland Co.	Absp.	15,000
Phillips Petroleum Co., Ray	C W½ Sec. 164, T.&N.O.R. R. Sur., Blk. 3-T, Moore Co.	Absp.	10,000
Phillips Petroleum Co., Rock Creek	N NW Sec. 22, Blk. Y, A. &B. Sur., Hutchinson Co.	Absp.	60,000
Phillips Petroleum Co., South Bend	20 ac. N C J. Garrett Sur., A-108, Young Co.	Absp.	9,000
Phillips Petroleum Co., Sanford	Sec. 81, Blk. 46, H.&T.C.R. R. Sur., Hutchinson Co.	Absp.	20,000
Phillips Petroleum Co., Texroy	SE Sec. 3, Blk. B-3, D.&S. E.R.R. Sur., Hutchinson Co.	Absp.	50,000
Portland Gasoline Co., Pampa	SW¼ Sec. 163, Blk. 3, L.& G.N.R.R. Sur., Gray Co.	C-A	20,000
Pure Oil Co., Van	Van Zandt Co.	C-A	34,000
Roeser & Pendleton, Inc., Fort Worth	Cook field, Shackelford Co.	Absp.	30,000
Roeser & Pendleton, Inc., Fort Worth	Bluff Creek field, Shackelford Co.	Absp.	6,000
Rudco Oil & Gas Co., Tyler	Bearden farm, Juana Salinas Sur., Eastland Co.	Comp.	5,000
Rhodes Pool Gasoline Co., Tulsa, Okla.	Jack Co.	Comp.	5,000
Sabine Valley Gasoline Co., Inc., Longview	Mary Scott Sur., Gregg Co.	Comp.	40,000
Shamrock Oil & Gas Corp., Lefors	Sec. 50, H.&G.N. Sur., Blk. 25, Gray Co.	Absp.	6,000
Shamrock Oil & Gas Corp., Sunray	Sec. 399, Blk. 44, H.&T.C. R.R. Sur., Moore Co.	Absp.	85,000
Shell Oil Co., Inc., Skellytown	SE¼ Sec. 107, Blk. 4, I.& G.N. Sur.	Absp.	25,000
Shell Oil Co., Inc., Skellytown	NW½ Sec. 113, Blk. 4, I.& G.N. Sur.	Absp.	8,000
Shell Oil Co., Inc., Pampa	SW¼ Sec. 83, Blk. 3, I.&G. N. Sur.	Absp.	15,000
Sinclair Prairie Oil Co., Longview	J. Moseley Sur., Boston Moore 140 ac.	C-A	80,000
Sinclair Prairie Oil Co., Arp	Florence Wilson Lse., R. McAnulty Sur.	C-A	80,000
Skelly Oil Co., Stinnett	NW¼ Joseph W. Proctor Sur., Moore Co.	Absp.	8,500
Skelly Oil Co., Burkburnett	Burkburnett townsite, Wichita Co.	Comp.	6,500
Skelly Oil Co., Burkburnett	H.T.&B.R.R. Sur., A-124, Wichita Co.	Comp.	800
Skelly Oil Co., Skellytown	E½ SE Sec. 124, Blk. 4, I.&G.N.R.R. Co. Sur., Carson Co.	Absp.	20,000
Skelly Oil Co., Box 36, Phillips	SW¼ Sec. 4, Blk. B-4, D.& S.E.R.R. Sur., Hutchinson Co.	Absp.	8,000
Skelly Oil Co., Skellytown	S½ Sec. 88, Blk. 4, I.&G.N. R.R. Sur., Carson Co.	Absp.	27,000
Skelly Oil Co., Skellytown	NE¼ Sec. 13, Blk. M-21, T. C. Ry. Sur., Hutchinson Co.	Absp.	11,000
Skelly Oil Co., Skellytown	NE¼ Sec. 174, Blk. 3, I.& G.N. Sur., Gray Co.	Absp.	25,000
Smith Bros. Ref. Co., McLean	Kermit	Absp.	40,000
Smith Bros. Ref. Co., McLean	McLean	Absp.	30,000
Southern Minerals Corp., Corpus Christi	Sur. 406, Saxet field	Absp.	50,000
Standard Oil Co. of Texas, El Paso	Sec. 10, Blk. 34, Ward Co.	C-A	30,000
Stanolind Oil & Gas Co., Corpus Christi	Lubi field	Absp.	50,000
Texas Co. (Delaware), Olney	B.B.B.&C.R.R. Sur., Blk. A-54, Archer Co.	Comp.	4,050
Texas Co. (Delaware), Burkburnett	Jackson Haden Sur., A-90, Wichita Co.	Comp.	14,850
Texas Co. (Delaware), Electra	H.&G.N. Sur., A-654, Wichita Co.	Comp.	14,350
Texas Co. (Delaware), Johnson	S.P.R.R. Sur., Sec. 26, Blk. L, Foard Co.	Absp.	6,000
Texas Pacific Coal & Oil Co., Fort Worth	Caddo	Absp.	20,000
Texas Pacific Coal & Oil Co., Fort Worth	Strawn	Absp.	5,000
Texoma Natural Gas Co., Fritch	Sec. 5, Blk. Y-2, T.T.R.R. Sur., Hutchinson Co.	Comp.	80,000
Tucker Oil Co., Wichita Falls	Blk. 83, R.R. V. Lds. Sur., Wichita Co.	Comp.	5,000
United Gas Pipe Line Co., Latex	Jane Thorpe Sur., Panola Co.	Absp.	8,000
United Gas Pipe Line Co., Agua Dulce	Ross Peters subd. No. 2, Andres Fernandez de la Fuente gr., Nueces Co.	Absp.	45,000
United Gas Pipe Line Co., Refugio	Sec. 6, Lot 2, Refugio town tr., Refugio Co.	Absp.	25,000
Waggoner, W. T., Estate, Vernon	H.&T.C.R.R. Sur., Sec. 42, Blk. 4, Wilbarger Co.	Absp.	12,000
Warren Petroleum Co., Fairbanks	Fairbanks	Absp.	30,000
Warren Petroleum Co., Houston	Houston	Asb.	5,000
West Texas Gas Co., Lubbock	Sec. 45, Blk. 2, A.B.&M. Sur., Potter Co.	Absp.	30,000

*Shut down. †M.c.f. instead of gallons.

WEST VIRGINIA

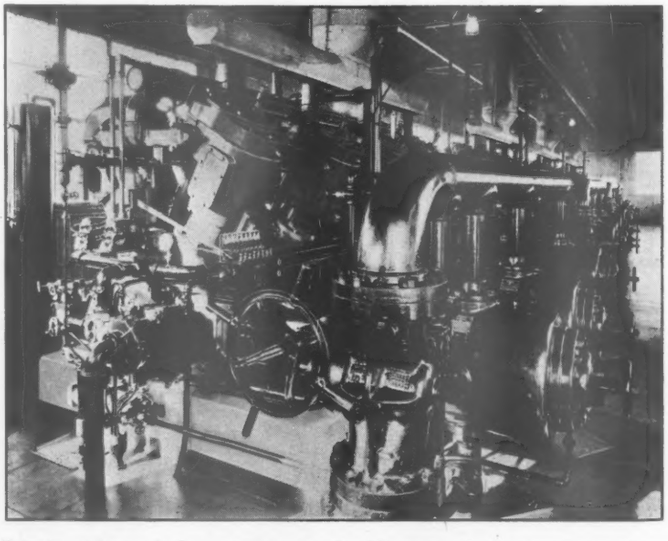
American Oil Development Co., Frew	Tyler County	Comp.	1,500
American Oil Development Co., St. Marys	Pleasants County	Comp.	100
American Oil Development Co., Meadville	Tyler County	Comp.	200
Blue Creek Oil & Gas Co., Charleston	Blue Creek	Comp.	3,000
Carbide & Carbon Chemical Corp., New York City	Diamond	Comp.	2,500
Carbide & Carbon Chemical Corp., New York City	Hastings	Comp.	1,000
Carnegie Natural Gas Co., Hundred	Hundred	Absp.	3,300
Carnegie Natural Gas Co., Underwood	Underwood	Absp.	3,000
Dinsmoor & Co., St. Marys	Pleasants County	Comp.	360
Dun Mar Oil & Gas Co., Fairview	Jarke Run	Comp.	50
Federal Oil & Gas Co., Elizabeth	Elizabeth	Comp.	250
Federal Oil & Gas Co., Weston	Weston, 8 mi. south	Comp.	500
Hapgood, Roswell T., & Co., Charleston	Cedar Grove	Char.	3,500
Henaghan & Hanlon, Inc., Sistersville	Finch	Comp.	1,000
Henaghan & Hanlon, Inc., Sistersville	Harrisville	Comp.	1,000
Henaghan & Hanlon, Inc., Sistersville	Harrisville	Comp.	5,000
Henaghan & Hanlon, Inc., Sistersville	Hebron	Comp.	3,000
Henaghan & Hanlon, Inc., Sistersville	Highland	Comp.	2,000
Henaghan & Hanlon, Inc., Sistersville	Highland	Comp.	12,000
Henaghan & Hanlon, Inc., Sistersville	Pike	Comp.	1,500
Henaghan & Hanlon, Inc., Sistersville	Pike	Comp.	3,000
Henaghan & Hanlon, Inc., Sistersville	Rock Run	Comp.	1,000
Henaghan & Hanlon, Inc., Sistersville	West Union	Comp.	500
Hope Construction & Refining Co., Pittsburgh, Pa.	Barren Creek	Absp.	12,000
Hope Construction & Refining Co., Pittsburgh, Pa.	Bristol	Absp.	8,000
Hope Construction & Refining Co., Pittsburgh, Pa.	Mount Clair	Absp.	2,500
Hope Construction & Refining Co., Pittsburgh, Pa.	Pine Grove	Absp.	40,000
Hope Construction & Refining Co., Pittsburgh, Pa.	Salem	Absp.	4,000
Hope Construction & Refining Co., Pittsburgh, Pa.	Waverly	Absp.	5,000
Hope Construction & Refining Co., Pittsburgh, Pa.	Valley Chapel	Absp.	20,000
Melrose Oil & Gas Co., Sistersville	Gorrell Farm, Middlebourne	Comp.	25
Oil & Gas Co., Parkersburg	Ritchie County	Comp.	250
Owens, Libby-Owens, Gas Dept., Charleston	South Malden	Absp.	10,000
Pittsburgh Oil & Gas Co., Pittsburgh, Pa.	R. D., Sistersville	Comp.	155
Pittsburgh Oil & Gas Co., Pittsburgh, Pa.	Macfarian	Absp.	*1,500
Pure Oil Co., Dawes	Kanawha County	C-A	8,200
Reno Oil Co., Sistersville	Ritchie County	Comp.	33
Reno Oil Co., Sistersville	Ritchie County	Comp.	50
Reno Oil Co., Sistersville	Ritchie County	Comp.	75
Reno Oil Co., Sistersville	Tyler County	Comp.	50
Reno Oil Co., Sistersville	Tyler County	Comp.	44
Rodgers, M. C. and G. K., Pittsburgh, Pa.	Big Springs	C-A	*800
South Penn Oil Co., Pittsburgh, Pa.	Mannington	Absp.	1,000
South Penn Oil Co., Pittsburgh, Pa.	Bula	Comp.	200
South Penn Oil Co., Pittsburgh, Pa.	Carpenter	Comp.	1,400
South Penn Oil Co., Pittsburgh, Pa.	Newton	Comp.	700
South Penn Oil Co., Pittsburgh, Pa.	Spencer	Comp.	900
South Penn Oil Co., Pittsburgh, Pa.	Fairview	Absp.	1,400
South Penn Oil Co., Pittsburgh, Pa.	Fink	Comp.	700
South Penn Oil Co., Pittsburgh, Pa.	Yawkey	Comp.	1,500
South Penn Oil Co., Pittsburgh, Pa.	Macfarian	Comp.	400
South Penn Oil Co., Pittsburgh, Pa.	Wolf Summit	Comp.	600
South Penn Oil Co., Pittsburgh, Pa.	Metz	Comp.	500
South Penn Oil Co., Pittsburgh, Pa.	Smithfield	Comp.	1,000
South Penn Oil Co., Pittsburgh, Pa.	Pinch	Comp.	400
South Penn Oil Co., Pittsburgh, Pa.	Pine Grove	Absp.	1,200
South Penn Oil Co., Pittsburgh, Pa.	Rock Creek	Comp.	800
South Penn Oil Co., Pittsburgh, Pa.	Stringtown	Comp.	800
South Penn Oil Co., Pittsburgh, Pa.	Shirley	Comp.	900
South Penn Oil Co., Pittsburgh, Pa.	Tanner	Comp.	400
South Penn Oil Co., Pittsburgh, Pa.	Blue Creek	Comp.	1,400
Tyler Oil Co., Sistersville	Tyler County	Comp.	50
Tyler Oil Co., Sistersville	Tyler County	Comp.	35
Tyler Oil Co., Sistersville	Tyler County	Comp.	25
Union Gasoline & Oil Corp., Moundsville	Marshall County	Absp.	*3,000
Union Gasoline & Oil Corp., Porter Falls	Wetzel County	Absp.	7,000
Union Gasoline & Oil Corp., Jane Lew	Lewis County	Absp.	3,000
Union Gasoline & Oil Corp., Sedalia	Doddridge County	Absp.	*3,000
Virginia Gasoline & Oil Co., Walgrove	Kanawha County	Absp.	*1,000
Virginia Gasoline & Oil Co., Clendenin	Kanawha County	Absp.	40,000
Virginia Gasoline & Oil Co., Charleston	Kanawha County	Absp.	15,000
Virginia Gasoline & Oil Co., St. Albans	Kanawha County	Char.	3,500
Virginia Gasoline & Oil Co., Hubball	Lincoln County	Char.	12,000
Virginia Gasoline & Oil Co., Jarretts Ford	Kanawha County	Absp.	1,800
Virginia Gasoline & Oil Co., Mammoth	Kanawha County	Absp.	2,500
Virginia Gasoline & Oil Co., Ona	Cabell County	Absp.	18,000
Virginia Gasoline & Oil Co., Sandyville	Jackson County	Char.	40,000
Virginia Gasoline & Oil Co., Three Mile	Kanawha County	Absp.	3,500
Virginia Gasoline & Oil Co., Pad	Roane County	Absp.	*800
Virginia Gasoline & Oil Co., Charleston	Kanawha County	Char.	2,000
Virginia Gasoline & Oil Co., Spencer	Roane County	Char.	*12,000
Virginia Gasoline & Oil Co., Fort Gay	Wayne County	Char.	3,500

*Shut down.

WYOMING

Continental Oil Co., Lance Creek	SE¼ Sec. 31-36n-65w, Niobrara Co.	Absp.	10,000
Ohio Oil Co., Rocky River	Carbon Co.	Absp.	5,000
Ohio Oil Co., Kirby	Hot Springs Co.	Comp.	*3,600
Sinclair Wyoming Oil Co., Bairoil	NE¼ Sec. 10-26n-90w	Comp.	1,200
Sinclair Wyoming Oil Co., Columbine	NE NE Sec. 13-39n-79w	Absp.	5,000
Stanolind Oil & Gas Co., Midwest	Salt Creek field	Comp.	60,000

*Shut down.



Interior view of the compressor building at the natural gasoline plant at Sunray, Texas, belonging to the Shamrock Oil & Gas Co.

FIELD OPERATIONS

Summarizing the Week's Developments

KANSAS—The largest potential producer of the week in the United States was a well in the Hittle pool in Cowley County, rated at 17,508 bbls. per day. It is in Section 21-31-4. In the same section another well was given a potential rating of 3,524 bbls. a day. Both were extension wells. A 1,322-bbl. well in Section 30-19-9w, opened the Barngrover pool in Rice County. The Campbell, Stumps, Geneseo, Haferman and Fischer pools in three counties were extended. The first completion in the Forest City basin is credited to the Sagamore Oil & Gas Co. in Section 2-14-22e, Johnson County, a 25-bbl. well.

OKLAHOMA—The Shawnee pool, in Pottawatomie County, was extended one-fourth mile southwestward. Two wells near completion in the Coyle pool, Payne County, will extend that area one location each. The twenty-sixth producer in the Ramsey pool, Payne County, was completed for potential of 4,720 bbls. a day.

TEXAS: Southwest—Three pools were added to the Jim Wells sector of the Frio-Vicksburg trend and another is in prospect. A wildcat north of the Luby field in Nueces County is showing 49-gravity oil on a drill-stem test. The Richard King field in Nueces County seems assured of production from a new pay.

North Texas—A deeper Strawn sand pay was opened in the Walnut Bend pool, northern Cooke County. Bridwell Oil Co.'s wildcat, 2 miles north of Halsell in western Clay County, flowed 50 bbls. per hour while being tested at 4,754-93 feet, opening a pool. A new shallow oil pool is in prospect in Wichita County. An outpost to the Hull-Silk pool in Archer County flowed 400 bbls. in four hours, after a 140-quart shot at 4,253-4,311 feet.

Eastern Texas—Four wildcats were abandoned as failures and a greater number of new outpost tests were started. Three of the dry holes were in McLennan County and one in Limestone County.

West Texas—Indications of the first Ordovician pool in Pecos County are seen in the preliminary performance of Anderson-Prichard No. 1 Masterson. The Keystone pool in Winkler County was extended three-quarters of a mile, and the Slaughter pool in Hockley was extended a mile northwest.

LA-ARK-TEX—Lafayette County, Arkansas, has a "shallow" discovery well in Section 24-16-24, producing from pay somewhere between 3,393 and 3,480 feet. The South China prospect in Jefferson Davis Parish in coastal Louisiana led in the interest in that big area as an 8,166-foot "mystery" test was reported to have found an oil sand.

WYOMING—The largest green-oil well completed since the palmy days of Salt Creek was reported from the Lance Creek field. It flowed 480 bbls. in one hour against a heavy back pressure, and is rated at 10,000 to 12,000 bbls. a day.

ILLINOIS—Breaking its own production records is becoming a habit with the Illinois fields, which last week put 185,400 bbls. a day on the market. Of this quantity the Central basin fields were responsible for 177,250 bbls.

CALIFORNIA—Amerada Petroleum Corp. has a well 4 miles north of the Southeast Coalinga field flowing at the rate of 4,250 bbls. of oil and 14,200,000 cu. ft. of gas. It may be the discovery well of a new pool.

Completions in All Fields

(Week Ending April 29, 1939)

	Oil	Gas	Dry	Total	1939 total comp. to date	1938 total comp. to date
N. Y., Pa., and W. Va.	40	9	1	50	1,005	1,479
Ohio	3	7	6	16	284	299
Indiana	0	0	0	0	41	26
Kentucky	8	0	5	13	188	238
Illinois	38	0	16	54	1,061	278
Michigan	6	1	9	16	370	251
Kansas	14	0	5	19	347	591
Oklahoma	23	5	12	40	573	567
Texas:						
North Central Texas	28	0	18	46	731	967
West Texas	33	0	2	35	610	769
Texas Panhandle	6	5	1	12	125	205
East Texas	10	0	0	10	188	796
East Central Texas	2	0	5	7	80	119
East Texas Border	0	0	0	0	22	55
Gulf Coast Texas	28	1	4	33	439	407
Southwest Texas	31	1	15	47	766	711
Total Texas	138	7	45	190	2,961	4,029
North Louisiana	7	1	6	14	172	191
Gulf Coast Louisiana	8	0	1	9	184	157
Total Louisiana	15	1	7	23	356	348
Arkansas	6	0	3	9	81	79
Montana	2	0	0	2	42	20
Wyoming	1	0	0	1	30	54
Colorado	0	0	0	0	3	3
New Mexico	16	1	2	19	194	197
Utah	0	0	0	0	0	0
California	12	0	3	15	309	447
Total United States	322	31	114	467	7,845	8,906
Total previous week	309	30	85	424		
Week ending Apr. 30, 1938	371	22	98	491		

Outstanding Fields—Highlights

(Week Ending April 29, 1939)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	14	38	9	6,482	979	24,498
Wasson-Bennett	18	33	6	6,010	279	13,987
Ector County	10	50	12	14,355	1,668	46,297
Winkler County	1	11	3	495	1,791	38,700
Howard-Glasscock	3	20	0	0	1,060	16,646
East Texas	8	24	10	404	26,083	446,798
OKLAHOMA						
St. Louis	5	19	5	1,920	811	39,250
Sac and Fox	3	11	3	275	116	3,610
KANSAS						
Barton County	4	17	0	0	423	12,774
Stafford County	3	9	2	1,138	257	10,328
Rice County	4	24	1	234	1,294	34,615
Russell County	4	24	1	273	1,215	21,125
NEW MEXICO						
Lea County	6	74	16	2,348	2,094	103,560
LA-ARK-TEX						
Shreveport	3	11	2	695	30	6,850
Cotton Valley, La. (deep)	1	6	1	395	125	13,890
Jennings, La.	0	4	1	500	138	25,467
MICHIGAN						
Freeman-Redding	4	27	2	800	76	13,219
Van Buren County	6	36	4	1,075	198	14,657
ILLINOIS						
Central Illinois	38	318	38	9,382	2,904	177,250
CALIFORNIA						
Wilmington	5	18	1	1,175	618	88,750
KENTUCKY						
Birk City	2	10	0	0	124	1,710

Illinois and Kentucky

By STAFF CORRESPONDENT

Many Wells Flooded in, But 54 Completions Are Noted

MATTOON, Ill., May 4.—Notwithstanding that many drilling wells were flooded in in the Illinois basin, 54 wells were completed in the past week, 38 of these being oil wells and 16 dry holes. Seventeen counties figured in the week's completions report and one or more dry holes were completed in all but four counties. Menard, Sangamon, Clark, Wayne, Washington, Perry, Fayette, St. Clair and Clay counties had one dry hole each, while Shelby had two, Gallatin, two, and Marion three.

In Fayette County 11 oil wells were completed with a combined initial production of 1,814 bbls. Marion County's 13 new oil wells are credited with 3,495 bbls. initial output. Six oil wells in Clay County were good for 3,188 bbls. a day; two in St. Clair, 261 bbls.; one in Clinton, 53 bbls.; one in Richland, 106 bbls.; one in Washington, 137 bbls.; one in Jefferson, 312 bbls. A 10-bbl. well was completed in Coles County and a well in Madison was completed which had an initial production of about 6 bbls. of oil and 18 bbls. of water. The combined initial production of the week's 38 oil completions was 9,382 bbls.

Completed Wells

Following were the completions of the week, the initial production of the oil wells representing 24 hours unless otherwise stated:

In Menard County, Arthur Scroggins No. 1 Johnson Brothers. C SW SW Section 24-19n-5w, a hole full of water, was abandoned at 2,156 feet. Niagara lime was topped at 1,340 feet.

In Sangamon County, A. C. Leathers No. 1 Workman, NW SE SE Section 28-15n-6w, had Trenton lime at 1,866 feet, and was dry and abandoned at 1,903 feet.

In Coles County, W. R. Miller No. 1 Griffin, SE NE NE Section 22-11n-10e, had sand at 523-38 feet, total depth 541 feet, and pumped 10½ bbls. of oil and 5 bbls. of water after a 30-quart shot.

In Clark County, Kingwood Oil Co. No. 1 J. Miller, SE SE NE Section 36-11n-12w, was dry and abandoned at 2,573 feet. It topped Devonian lime at 2,425 feet.

In Shelby County, R. E. Hughes and others No. 1 Fluga, NW cor. NE NW Section 34-10n-3e, was dry and abandoned at 2,212 feet. St. Louis lime was topped at 2,180 feet. Harris and others No. 1 Skinner, NW NW NW Section 29-10n-1e, dry and abandoned at 1,702 feet. Bethel sand lay at 1,540-53 feet.

In Madison County, L. C. Simmel and others No. 1 M. Keller, NE NE SE Section 7-3n-8w, topped Devonian lime at 1,268 feet, Silurian lime at 1,310 feet; drilled to 1,367 feet, and plugged back to 1,300 feet. Casing was ripped at 1,273-88 feet and the well acidized with 1,000 gallons; pumped 25 bbls. of fluid, 60 per cent of which was water.

In Jefferson County, Carter Oil Co. No. 2 Boggs, NE SW SE Section 4-1s-2e, Dix pool, Bethel sand at 1,924-43 feet, shot with 30 quarts, pumped 312 bbls. of oil, cut 1 per cent with basic sediment.

In Wayne County, H. H. Weinert No. 2 Cunningham, C S half SE NE Section 28-2s-8e, was dry and abandoned at 3,450 feet; top of the Fredonia at 3,355 feet.

In Washington County, Cortes pool, Shell Oil Co. No. 2 Holston, NE NE NW Section 22-3s-3w, Bethel sand saturation at 1,275-97 feet, shot with 10 quarts, pumped 137 bbls. American Seismograph Co. No. 1 Kaznozek, in NW NE SE Section 23-3s-3w, which was dry in the Benoist sand at 1,285-95 feet, may be deepened. McBride and Shell No. 1 Luney, NW SW SE Section 22-3s-3w, had no showing in McClosky at 1,504-54 feet, and was dry and abandoned.

In Perry County, Lundy and Winkler No. 1 Stern, NW NW NE Section 8-4s-3w, was dry and abandoned at 1,630 feet; top of the St. Louis lime at 1,575 feet.

In Gallatin County, Bailey & Lucas No. 1 Logan, SW cor. SE NE NE Section 21-8s-8e, was dry and abandoned at 2,980 feet, top of the St. Louis lime at 2,942 feet. Dillon and others No. 1 Frohoch, SE SE SE Section 4-10s-8e, dry and abandoned at 2,750 feet, top of the Fredonia lime at 2,585 feet.

In Richland County, Pure Oil Co. No. 8 H. Cazel A, NW NW SE Section 23-4n-9e, saturated sand at 2,578-88 feet and 2,625-30½ feet, pumped 106 bbls. of oil and 101 bbls. of water.

In Clinton County, Shell Oil Co. No. 6 Buehler, NW NW NW Section 12-1n-1w, west side of the Centralia field, had Cypress sand at 1,203-20 feet; shot with 20 quarts, swabbed 40 bbls. in 20 hours and then pumped 53 bbls. in 24 hours, with 2 bbls. of water.

Fayette Completions

In the Louden pool in Fayette County, Carter Oil Co. No. 1 Fortner, SW NW SE Section 10-8n-3e, total depth 1,614 feet, is a 90-bbl. well. Carter Oil Co. No. 2 R. McCloy, SW NE NE Section 32-8n-3e, Bethel sand at 1,500-34 feet, shot with 40 quarts, flowed 341 bbls. in eight hours through tubing and is rated at 978 bbls. per day. Carter No. 1 H. Tucker, SW NE SE Section 32-8n-3e, Bethel at 1,558-82 feet, shot with 40 quarts, flowed 130 bbls. through tubing in eight hours, rated at 480 bbls. per day. Carter No. 2 M. B. Heckert, SE SE NW Section 20-7n-3e, Cypress sand at 1,533-65 feet, shot with 40 quarts, swabbed 339 bbls. Carter No. 2 F. W. Coddington, NE NW NW Section 20-7n-3e, Cypress sand at 1,489-1,529 feet, shot with 40 quarts, swabbed 147 bbls. W. C. McBride, Inc., No. 1 L. Sapp, NE NW SW Section 18-7n-3e, Cypress sand at 1,503-44 feet, shot with 50 quarts, swabbed 5 bbls. in three hours, rated at 106 bbls. per day. Carter Oil Co. No. 1 A. Miller, NW SW SE Section 8-7n-3e, stray sand at 1,-547-74 feet, shot with 10 and then with 25 quarts, and then with 20 quarts in Cypress sand which lay at 1,480-1,523 feet, swabbed 121 bbls. Carter No. 2 Heckert, SW NW SE Section 8-7n-3e, Cypress sand at 1,466-1,511 feet, stray sand at 1,537-62 feet, given three shots, swabbed 24 bbls. Carter Oil Co. No. 4 M. Kistler, NW NW SW Section 6-7n-3e, Cypress sand at 1,-483-1,519 feet, shot with 30 quarts, swabbed 140 bbls. Carter No. 5 N. M. Hopper, NE SE SE Section 6-7n-3e, Bethel sand at 1,509-29 feet, shot with 20 quarts, swabbed 417 bbls. Texas Co. No. 1 Kimbrell, SE NE SW Section 19-7n-3e, total depth 1,844 feet, dry and abandoned. Ste. Genevieve lime was topped at 1,835 feet. There was no test of the deep formation and there was little showing in the upper series. Kingwood Oil Co. No. 4 Smith, NE cor. Section 13-7n-2e, Cypress sand at 1,519-63 feet, shot with 20 quarts, swabbed 60 bbls.

Illinois Fields

HIGHLIGHTS OF THE WEEK: Again all daily production records in Illinois were surpassed. High water is affecting practically all fields in the state and is particularly hard on operators wildcatting in the southern counties. The largest completion of the week was in the Salem field in Marion County. It produced 1,640 bbls. the first 24 hours.

Daily production of new fields, 177,250 bbls.; old fields, 8,150 bbls.; total, 185,400 bbls.

Completed oil wells, 38; operations, including locations, rigs and wells drilling, 412.

Clay County

In Clay County, Taylor Drilling Co. No. 1 Merilberger, NW SW SE Section 9-5n-5e, McClosky lime at 2,495-2,507 feet, total depth, dry and abandoned. Pure Oil Co. No. 1 Clay City Bank, C E half NE SE Section 6-2n-8e, Fredonia lime at 3,017 feet, pays at intervals from 3,026 to 3,113 feet, total depth 3,125 feet, acidized with 5,000 gallons, flowed 926 bbls.; previously flowed naturally 389 bbls. in 21½ hours. Pure No. 5 L. Clark, C W half NE SW Section 8-2n-8e, Fredonia top at 2,997 feet, total depth 3,183 feet, showings and pays from 3,030 to 3,143 feet, acidized with 3,300 gallons, pumped 132 bbls. of oil and 122 bbls. of water. Pure No. 10 T. H. Tetrick A, C E half SE NE Section 9-2n-8e, Fredonia at 2,960 feet, pays from 2,965 to 3,030 feet, total depth, acidized with 5,000 gallons, flowed 448 bbls. Pure No. 1 Taylor Consolidated, C E half NW NW Section 8-2n-8e, Fredonia at 2,998 feet, pays and showings from 2,992 to 3,080 feet, acidized with 5,000 gallons, flowed 920 bbls. Pure No. 6 L. Clark, C E half NE NW Section 8-2n-8e, Fredonia at 2,980 feet, showings and pays from 2,991 to 3,074 feet, acidized with 5,000 gallons, flowed 207 bbls. Pure Oil Co. No. 1 S. S. Gill B, C W half SW SW Section 3-1n-8e, Fredonia lime at 3,035 feet, total depth 3,100 feet, flowed 555 bbls.

Completions in St. Clair

In St. Clair County, Hempen and others No. 1 Theilman, C W half NW SW Section 34-1n-10w, Trenton lime at 661 feet, total depth 706 feet, pumped 85 bbls. Hempen and others No. 1 Mueller, C S half NW SW Section 31-1n-10w, Trenton lime at 641 feet, total depth 676 feet, pumped 176 bbls. per day. A. H. Emenheiser No. 1 Alberts, CNL NW SW Section 31-1n-8w, dry and abandoned at 1,615 feet.

Results in Marion County

In Marion County, Max Pray No. 1 Langenfeld, SW NW SW Section 4-2n-1e, an outpost to the old Sandoval field, was abandoned at 3,098 feet. It tested salt water in the Devonian lime topped at 2,935 feet, and in the formations below. Potter Brothers No. 3 M.&I.R.R., NW NE SE Section 16-2n-2e (corrected location), topped Fredonia lime at 2,032 feet, total depth 2,091 feet, flowed 1,640 bbls. In the Salem field, Magnolia Petroleum Co. No. 27 W. O. Chitwood, NE NW SE Section 16-2n-2e, McClosky lime at 2,075-97 feet, flowed 525 bbls. Max Pray No. 4 Cole, SW NW SE Section 16-2n-2e, McClosky lime at 2,075-85 feet, flowed 525 bbls. through tubing in 24 hours. Zephyr Drilling Co. No. 5 Lankford, SW NE SW Section 34-2n-2e (corrected location), McClosky at 2,130-40 feet, acidized with 50 gallons, and then with 2,000 gallons, but it developed a hole full of water and was abandoned. Texas Co. No. 14 Jett, NE SW SE Section 16-2n-2e, Benoist sand top at 1,844 feet, shot with 14 quarts at 1,859-73 feet, pumped 34 bbls. in three hours, rated at 238 bbls. a day. Ohio Oil Co. No. 6 Lloyd, NW NW NE Section 33-2n-2e, Aux Vases sand at 1,828-49 feet, pumped 130 bbls. Texas Co. No. 2 Farthing, NW NE SW Section 33-2n-2e, Benoist at 1,827-71 feet, flowed 56 bbls. in three hours, rated at 392 bbls. a day. Texas No. 2 Sands, NE NW SW Section 33-2n-2e, Benoist at 1,811-74 feet, flowed 60 bbls. in three hours, rated at 420 bbls. a day.

Texas Co. No. 9 B. Hawkins, NE NE NW Section 8-1n-2e, in the southern half of the Salem field, Benoist sand at 1,787-1,805 feet, pumped 15 bbls. in three hours, rated at 105 bbls. a day. Texas No. 18 L. Hawthorne, SW NW NE Section 8-1n-2e, Benoist at 1,715-55 feet,

pumped 9 bbls. in three hours, rated at 56 bbls. a day. Texas No. 24 City of Centralia, NW cor. SW NW NW Section 9-1n-2e, Bethel sand at 1,814-42 feet, pumped 25 bbls. in three hours, rated at 175 bbls. a day. Texas No. 5 W. D. Fyke, NW NW SE Section 8-1n-2e, McClosky lime at 2,045 feet, total depth 2,075 feet, acidized with 2,000 gallons, pumped 18 bbls. in three hours, rated at 126 bbls. a day. Texas No. 10 Fyke, NE cor. SW Section 8-1n-2e (corrected location), McClosky at 2,032 feet, total depth 2,065 feet, acidized with 1,000 gallons, swabbed 33 bbls. in three hours, rated at 231 bbls. a day. Rockhill Oil Co. No. 6 Foster, SW SW SW Section 8-1n-2e, McClosky at 2,044-99 feet, total depth, plugged back to 2,069 feet, and drilled out to 2,082 feet, total depth, flowed 425 bbls. Hawley Oil & Gas Co. No. 1 Copple, SW SW NE Section 28-1n-1e, dry and abandoned at 2,283 feet, Fredonia lime topped at 2,174 feet.

Many Wildcats Flooded In

So many wildcat wells are shut down on account of high water that this week's review of outpost operations is somewhat brief. The following review is of active tests, and it may be said that more wildcat wells are flooded and idle than are actively drilling.

In Sangamon County, Millar and others No. 1 Sample, NW SW NE Section 11-15n-3w, drilling at 1,234 feet; St. Louis lime topped at 830 feet.

In Coles County, W. R. Miller No. 1 McConnell, SW NW NW Section 23-11n-10e, was shot with 20 quarts at 555-82 feet, and the crew was cleaning out.

In Montgomery County, Cassens and others No. 1 Wilkering, NW SW NE Section 34-10n-2w, drilled to 1,881 feet and shut down for orders.

In Clark County, Leatherman No. 1 Cooley, C SE SW Section 26-9n-14w, moving in material for a 1,500-foot test.

In Bond County, Kesl and others No. 1 Salthoff, NE NE NW Section 12-6n-5w, which topped Devonian lime at 1,826 feet and was drilling at 2,150 feet, will be drilled to the Trenton lime.

In Effingham County, Kingwood Oil Co. No. 1 McWhorter, C E half SE NW Section 15-6n-6e, was drilling at 6,031 feet.

In Clay County, F. J. Searight No. 1 Wilson, SW SW NW Section 6-5n-5e, drilling at 2,532 feet with the hole full of water. Fredonia top reported at 2,502 feet. Dick Burnett No. 1 Cyrus Liggett, SW cor. NE SE Section 17-5n-5e, drilling at 2,362 feet with 1,200 feet of fluid in the hole. It will be drilled to the McClosky lime. Dick Duncan No. 1 Huber, SW SE NW Section 17-5n-5e, Aux Vases sand at 2,393-2,404 feet, total depth, will shoot. Duncan No. 1 J. H. Liggett, SE NW SE Section 17-5n-5e, Aux Vases sand at 2,362-79 feet, shot with 5 quarts, pumped 45 bbls. of oil and 3 bbls. of water in three hours, but not yet a completion.

In Bond County, Eason Oil Co. No. 1 Bank, NE NE NW Section 24-4n-3w, had saturated Benoist sand at 1,149-60 feet, plugged back to 1,149 feet. Will test after setting pipe.

In Marion County, Arthur Harvey No. 1 Bank, C N half NE SE Section 33-3n-2e, northwest of the Salem pool, was acidized with 1,000 gallons at a total depth of 2,193 feet. It swabbed 194 bbls. of oil and 25 bbls. of water. Hardeman and others No. 1 Hess, NE cor. NW NE Section 19-1n-2e, total depth 2,356 feet, was rigging up standard tools to drill to the Devonian.

In Richland County, Kingwood Oil Co. No. 1 Provine, SE SE SW Section 3-2n-14w of second principal meridian, was drilling at 2,146 feet.

In Wayne County, Pure Oil Co. No. 1 Ruel Fitch, C N half SW NE Section 10-1n-8e, total depth 3,160 feet, swabbed 3 bbls. of oil and 32 bbls. of water in three hours and was shut down for orders.

In Wabash County, W. M. Bartlett No. 1 Stansfield, SW SE SE Section 19-2s-13w of second principal meridian, drilling at 1,275 feet.

In Wayne County, New Penn Development Co. was preparing to acidize No. 1 Scott, in NW NW SE Section 7-2s-9e, plugged back to 3,416 feet from the total depth of 3,417 feet.

Washington County

Status of wells in Washington County, in which the Cordes pool is located in Township 3s-3w, was as follows: Thompson Drilling Co. No. 1 Musial, Section 19-3s-1w, plugged back from 1,383 feet to 1,262 feet, pumped salt water, shut down for orders. Thompson Drilling Co. No. 1 Rosanski, Section 19-3s-1w, set 5½-inch casing at 1,237 feet, total depth 1,268 feet, pumped salt water, shut down for orders. Pollack No. 1 Leibrock, Section 2-3s-3w, drilling at 960 feet. Webster and others No. 1 Oexeman, Section 5-3s-3w, shut down at 600 feet with casing stuck. Hamilton and others No. 1 Francis Roadway, Section 15-3s-3w, set 5½-inch casing at 1,294 feet, total depth 1,302½ feet. Magnolia Petroleum Co. No. 1 Francis, Section 15-3s-3w, total depth 1,289 feet, plugged back to 1,287½ feet, pumped 131 bbls. of oil and 29 bbls. of water in 15 hours, still testing. Magnolia No. 2 Francis, Section 15-3s-3w, Bethel sand at 1,254-59 feet, drilling plug after setting pipe at 1,254 feet; No. 3 Francis set casing at 1,290 feet, Bethel at 1,291-1,304 feet. Magnolia No. 4 Francis shot with 15 quarts at 1,256-62 feet, Benoist sand, cleaning out. Magnolia No. 5 Francis, Benoist at 1,275 feet, drilling in sand at 1,287 feet with 600 feet of oil in the hole. Magnolia No. 1 E. McConnell, Section 15-3s-3w, drilling at 175 feet. W. C. McBride, Inc., No. 1 Wiese, Section 15-3s-3w, total depth 1,285 feet, pumped 9 bbls. of oil and 2½ bbls. of water per hour, still testing. McBride No. 2 Weise, total depth 1,265 feet, pumped 11 bbls. of oil per hour for 13 hours, still testing. Shell Oil Co. No. 1 Klozak, Section 15-3s-3w, total depth 1,284 feet, swabbed 109 bbls. of oil in 22 hours, shot with 10 quarts, swabbed 144 bbls. in 22 hours, still testing. Beavers and others No. 1 Lancey, Section 16-3s-3w, drilling at 357 feet. Shell No. 2 Klozak, Section 15-3s-3w, drilling at 1,050 feet. Manitou No. 1 Harwick, Section 22-2s-3w, Benoist top at 1,275 feet, total depth 1,278 feet, set 7-inch casing at 1,268 feet. Lewis Lilly No. 1 Gill and Goodman, Section 23-3s-3w, Benoist at 1,252-57 feet, total depth, shut down. J. J. Broadus No. 1 Chapman, Section 35-3s-3w, shut down for orders at 1,305 feet. Phillips Petroleum Co. No. 1 Hunleth, Section 32-3s-3w, drilling at 1,707 feet. Cochrane and Murray No. 1 Gebhart roadway, 8 feet from north and 230 feet from east lines of NW quarter Section 15-3s-3w, rigging up rotary. Hawley Oil Co. No. 1 Todd, 1,220 feet from south and 560 feet from west lines SW quarter Section 28-3s-3w, moving in rotary.

In Perry County, Stevens & Ward No. 1 Albers, SE SE SE Section 32-4s-2w, set 10-inch casing at 40 feet, drilling at 65 feet.

In Franklin County, Adams Oil & Gas Co. No. 1 Old Ben Coal Co., SW SW NE Section 19-5s-2e, Kinderhook shale at 3,898 feet, drilling at 4,005 feet.

In Champaign County, Sadorius Oil Co. No. 1 Nagle, SE SE SE Section 31-18n-8e, fishing for tools, total depth 600 feet.

In Shelby County, Independent Refining & Producing Co. No. 1 Hackenberg, SE SW SW Section 20-12n-2e, drilling at 1,675 feet.

In Christian County, M. A. Marks No. 1 Buhs, SE SW NW Section 12-11n-1w, spudded.

In Pike County, Apex Drilling Co. and others No. 1 Weaver, SE NE NE Section 25-3s-4w of fourth principal meridian, drilling at 975 feet.

In Warren County, John Memkin No. 1 Simmons, SE SE NE Section 11-8n-2w of fourth principal meridian, total depth 1,060 feet, plugging back to 1,050 feet to test a showing in St. Peter sand.

In Knox County, O. H. Hammer No. 1 H. Bragg, NW cor. SE SE SE Section 9-11n-2e of fourth principal meridian, drilling at 483 feet.

OHIO

NEWARK, Ohio, May 1.—Leo Ranney, who drilled the horizontal well into an outcrop of the Cow Run sand near McConnellsville, Morgan County, which was featured in The Oil and Gas Journal of April 20, writes that the well is expected to settle to 25 bbls. a day,

(Continued on Page 126)

Eastern Kentucky Is Given an Extensive New Leasing Play

ASHLAND, Ky., May 1.—A steady leasing campaign, of well-selected and defined pattern, has been under way in the eastern Kentucky fields for the past four or five months. Leases have been taken only on known structures, productive in upper sands, and in many cases on which production has been exhausted and the former leases abandoned.

No particular excitement has been created by this extensive leasing but several hundred thousand acres have been signed up. It is known that 25,000 acres have been leased in Johnson County with the campaign extending through Elliott, Wolfe, Knox, Morgan, Magoffin, Laurel, Whitner and some other adjacent counties.

A big play has been made on the Paint Creek uplift with leasing activity centering at Flat Gap and Red Bush.

It is said that the majority of the leasing was being done by Oklahoma and Illinois capital. The intention of the parties doing the leasing being to do deeper drilling with the St. Peter (Oklahoma Wilcox sand) as the main objective.

One well is now being drilled on the waters of Little Richland Creek, 6 miles north of Barbourville, in Knott County, by the Schmidt Oil Development Co., Detroit, Mich. Drilling has passed the 2,200-foot mark with 6⅝-inch casing set through the Corniferous and operations continuing down to Devonian and Silurian.

Former production of both oil and gas in this section has been in sands down to Corniferous. The fact that the great majority of the known and prominent structures have already been leased including leases on land on which shallow-well production was exhausted and the former leases expired, leaves little doubt that the coming drilling operations will be through the Ordovician system to the St. Peter sand or deeper.

A slight decline was noted in the regular drilling operations this week. No completions or dry holes were included in the reports.

WESTERN KENTUCKY

OWENSBORO, Ky.,—The best well completed in western Kentucky in the past week was a 200-bbl. Jett sand well in the Utica district in Daviess County. High water is still handicapping operators in the field. Eight oil wells and five dry holes were completed in six counties.

Daviess County, Utica district: Bert Cameron and others No. 1 Lula Akins, estimated good for 200 bbls. a day from Jett sand, total depth 1,213 feet; Master Oil Co. No. 1 George P. Baird, location; Master Oil Co. No. 1 William Johnson, west tract, 15-bbl. well in Cunningham sand, but drilled through dry McClosky lime, total depth 1,675 feet; H. C. Farmer and others No. 1 G. A. Nation, 25-bbl. well in Barlow sand, total depth 1,218 feet; Major Oil Co. and others No. 1 Dr. A. A. Westerfield, bailing 1 bbl. per hour from stray sand 1,015-30 feet. Cane Run School district: Cane Run Petroleum Co. No. 10 R. E. Jackson, 20-bbl. well in Jett sand, total depth 676 feet. Laffoon district: Gardner Brothers No. 3 J. D. Walker, 10-bbl. well in Jett sand, total depth 891 feet.

Grayson County, 2 miles south of Annette: A. M. Ross and others No. 1 Arroy Lloyd Tie Co., dry hole through Corniferous lime, total depth 1,818 feet.

Henderson County, 2½ miles south of Henderson: Sun Oil Co. and Kentucky Natural Gas Co. No. 1 Elizabeth Hodge Estate, dry hole through McClosky lime, total depth 2,451 feet. Corydon district: Sun Oil Co. and Kentucky Natural Gas Co. No. 3 George Trigg, rigging up.

McLean County, Livermore district: J. P. Plumb and others No. 1 J. B. Cabbage, location for a McClosky test. Nuchols district: Fred Phillips and others No. 2 Charles Montgomery, dry hole, total depth 1,835 feet.

Muhlenberg County, Belton district: Phillips Petroleum Co. No. 1 Clarence Boggess, flowing 7 bbls. per hour, naturally; will acidize.

Ohio County, Taffy district: E. Dehart and others No. 9 A. J. Early, dry hole, total depth 645 feet; No. 10 moving in. Oklahoma district: White & Vickers No. 3 Thurman Greer, rigging up. Haynesville district: Rex Pyramid Oil Co. No. 1 Lon Helm, 12-bbl. well in Jett sand; No. 2 spudding in. Sulphur Springs district: E. Dehart and others No. 2 William Russell, dry hole, total depth 685 feet.

North Louisiana, Arkansas

By
GEORGE WEBER

Shallow Discovery Revives Lewisville-Stamps District

SHREVEPORT, La., May 1.—A shallow discovery in Lafayette County, Arkansas, was the principal event in the week's developments in the tri-state area. The wildcat, Erwin & Leach No. 1 Patton, C S half NW NE Section 24-16-24 has revived interest in the Lewisville-Stamps area of north Lafayette County. Following failure in testing the Smackover lime in a nearby test several weeks ago, the shallow operation was begun, with the testing of the Glen Rose section as an objective.

The wildcat, carried to a total depth of 3,606 feet last week, encountered a show of oil and was plugged back to 3,480 feet and 5½-inch casing was set at 3,393 feet. The well was washed and swabbed until the fluid level had been lowered to within 600 feet of bottom. Overnight the well headed twice, and tankage was moved in to the site for a production test. On a 15-hour gauge the well made 100 bbls. of 38-gravity dark oil, through a 1-inch choke. Another gauge showed 30 bbls. during the first hour following a shut-in period, and 8 bbls. during the second hour, through a half-inch choke, with tubing pressure at 400 pounds and casing pressure at 650 pounds. Additional storage is being moved in before placing the well on commercial production.

Columbia Wildcat

The Phillips Petroleum Co. No. 1 Askew, a wildcat drilling northwest of the town of Magnolia in Columbia County, Arkansas, topped the Travis Peak formation this past week at 4,620 feet and is drilling in red shale below 5,600 feet. The test is going to the Smackover lime which shows a structure in the area. A new wildcat, to be drilled by the Atlantic Refining Co. 9½ miles southwest of Magnolia, was also announced this week.

In the Atlanta field, latest Columbia County discovery, the Tide Water Oil Co. No. 1 Price, second test in the field, topped the Smackover lime at 8,211 feet and found saturation at 8,227 feet. The well is being drilled into the porous lime section below 8,235 feet.

Sibley Test

In North Louisiana, the closely watched Union Producing Co. No. 1 Walker Unit, a lower Marine test in the Sibley area of southern Webster Parish, had not found the formation at a total depth of 9,521 feet and was drilling ahead. The section is expected to be drilled very shortly.

The Cotton Valley field, in Webster Parish, has an important southeast outpost test nearing the lower Marine. The Midstates Oil Corp. No. 1 Giddens, located 100 feet north of center SW SW Section 30-21-9, is drilling below 8,275 feet, with the top of the lower Marine expected within 200 feet. The D sand and the Bodcaw sand, both anticipated for oil production, will be tested in the outpost.

Outstanding among the week's field completions were two wells in the Shreveport field, and one failure in the same area. One oil well was completed in the Rodessa field, two small wells were brought in in the Caddo field, and the Vivian field received setbacks with three abandonments. All four pools are located in Caddo Parish.

In Arkansas, the Magnolia field, most active currently, gained one good producer, while the Village field due east was defined by a failure of a west edge test. The Schuler field of Union County added three oil wells.

NORTH LOUISIANA COMPLETIONS

(24-hour gauges)

Caddo Field—Caddo Parish

Texas Co. No. 21 Raines, 800 feet N and 660 feet W of SE cor. SW SE Section 15-21-15, pumping and flowing 432 bbls., 25 per cent B.S.&.W.; acidized with 3,000 gallons, total depth 1,762 feet. Z. E. Robinson No. 1 Davenport, 200 feet N and E C Section 36-21-16, swabbing and flowing estimated 100 bbls., total depth 2,278 feet.

Production by Pools

Estimated daily gross production of all companies week ending April 92:

NORTH LOUISIANA

	Barrels
Bellevue	715
Caddo light	4,260
Caddo heavy	2,475
Converse	535
Cotton Valley heavy	95
Cotton Valley light	*13,890
Cross Lake—Shreveport	6,850
De Soto and Red River	1,135
Elm Grove	275
Haynesville	2,955
Holly	90
Homer	2,675
Lisbon	4,160
Pleasant Hill	90
Rodessa	28,885
Carepta-Carterville	†535
Sligo	1,040
Sugar Creek	235
Urania	2,615
Zwolle	2,890
Total	76,400

SOUTH ARKANSAS

Atlanta	265
Buckner	1,805
Champagnolle	1,855
El Dorado	1,715
Losbon	250
Magnolia	4,505
Miller County	350
Nevada	590
Rodessa	5,065
Schuler	18,135
Smackover light	1,885
Smackover heavy	15,000
Stephens	510
Troy	950
Urbana	1,160
Village	690
Total	54,730

Texas sied of Rodessa field 30,360 bbls. daily.

*4,895 bbls. is distillate.
†230 bbls. is distillate.

Rodessa—Caddo Parish

East Texas Refining Co. No. 1 Bain, Section 4-23-15, flowed 142 bbls. through 5½-inch casing set at 6,026 feet, total depth 6,111 feet, acidized with 3,000 gallons.

Shreveport—Caddo Parish

Harry Hanbury No. 1 Feist, C SE NW Section 26-18-14, flowed 408 bbls. through 18/64-inch choke, tubing pressure 650 pounds, casing pressure 900 pounds, porous lime 5,548-56 feet, set 5½-inch casing at 5,547 feet, total depth 5,556 feet, used 1,500 gallons of acid. Lake Production Co. No. 1 Herndon and others, SE cor. NE SW Section 34-18-14, flowed 288 bbls. through quarter-inch choke, tubing pressure 700 pounds, casing pressure 1,000 pounds, porous lime 5,608-24 feet, set 5½-inch casing at 5,618 feet, total depth 5,625 feet. W. R. Nicholson Oil Co. No. 1 De Soto Corp., NW cor. Section 26-18-14, drilled out cement at 5,558 feet and tested dry, perforated casing at 5,548-55 feet with 25 shots an dtreated with 500 gallons of acid, tested salt water and abandoned at 5,563 feet.

Urania—La Salle Parish

Stovall Drilling Co. No. 4-B Russell, NW cor. Section 25-10-1e, pumped 10 bbls. oil and 400 bbls. salt water, total depth 1,550 feet.

Vivian—Caddo Parish

Whitehurst Drilling Co. No. 1 Herold and others, C SE SE SW Section 21-22-16, dry and abandoned at 2,704 feet. Tippett Oil Corp. No. 2 Thigpen-Herold, 2,310 feet, S and 1,650 feet E of NW cor. Section 34-22-16, set 5½-inch casing 2,454 feet, salt water, abandoned at 2,462 feet. Bobby Manziel No. 1 Files, 280 feet N, 994 feet W SE cor. Section 22-22-16, tested salt water at 2,650 feet, dry and abandoned.

Zwolle—Sabine Parish

Cantwell & Quick No. 1 Sabine, C NE SE NE Section 8-7-13, pumped 100 bbls. oil and 200 bbls. salt water, total depth 2,339 feet. M.C.M. Drilling Co. No. 2 Bowman Hicks, C NW NW Sec. 3-7-12, treated with 2,000 gallons of acid, dry and abandoned at 2,791 feet. Major Oil Co. No. 2-C Bowman Hicks, C NW NE Section 4-7-12, dry and abandoned at 2,910 feet.

Cotton Valley—Webster Parish

Hunt Oil Co. No. 4 Bodcaw Stewart, SW cor. Section 34-21-10, 397 bbls. distillate through three-eighths inch choke, tubing pressure 2,175 feet; tubing set on packer; gas-oil ratio 3,320 to 1, total depth 8,431 feet.

ARKANSAS

Magnolia—Columbia County

Atlantic Refining Co. No. 1-D L. Garrett, C NE NW Section 24-17-20, flowed 334 bbls. through 11/64-inch choke, tubing pressure 1,900 pounds, casing pressure 2,300 pounds, perforated casing at 7,470-7,562 feet, gas-oil ratio 872 to 1, total depth 7,565 feet. G. H. Vaughn No. 1 Baker, C NE SE Section 15-17-20, 840 bbls. through quarter-inch choke, tubing pressure 1,000 pounds, casing pressure 1,000 pounds, set 5½-inch casing 7,579 feet, total depth 7,589 feet.

Village—Columbia County

Standard Oil Co. of Louisiana No. 1 J. J. Gunnels Unit, 660 feet S and 665 feet W NE cor. SE NE Section 16-17-19, topped Smackover lime 7,376 feet, total depth 7,434 feet, salt water, abandoned.

Wildcat—Lafayette County

Erwin & Leach No. 1 Patton, C S half NW NE Section 24-16-24, total depth 3,606 feet, plugged back to 3,480 feet, set 5½-inch casing 3,393 feet, swabbed 160 bbls. 38-gravity oil through 1-inch choke, tubing pressure 30 pounds, casing pressure 330 pounds, shut in and reopened next day, made 30 bbls. first hour through half-inch choke and 8 bbls. second hour, tubing pressure 400 pounds, casing pressure 650 pounds.

Wildcat—Union County

Goodwin & Markwick No. 1 Union Sawmill Co., C NW NW Section 13-18-18, salt water, abandoned at 3,315 feet. Bob Milam No. 1 Davis, old well drilled deeper, 330 feet SE cor. NW NW Section 28-16-14, old total depth 3,481 feet; could not wash to bottom; junked and abandoned.

Schuler—Union County

E. M. Jones No. 3 J. C. Morgan, Section 13-18-18, 1,608 bbls. through half-inch choke, tubing pressure 175 pounds, casing pressure 700 pounds, perforated at 7,574-7,610 feet, total depth 7,660 feet. E. M. Jones No. 4 J. C. Morgan, C N half NE NW Section 13-18-18, 1,320 bbls. through half-inch choke, tubing pressure 850 pounds, casing pressure 650 pounds, perforated at 7,592-7,629 feet. Lion Oil Refining Co. No. 1 Calloway, 330 feet S, 660 feet W NE cor. SE SE Section 13-18-18, 360 bbls. through 28/64-inch choke, tubing pressure 575 pounds, casing pressure 900 pounds, perforated at 7,565-85 feet, total depth 7,655 feet.

Texas and Louisiana Gulf

By
NEIL WILLIAMS

South China Prospect Looks Good to South Louisianans

HOUSTON, Tex., May 1.—The South China prospect in Jefferson Davis Parish, coastal Louisiana, was placed in the fore front of Gulf Coast activities the past week as reports of an oil sand in Union Sulphur Co. No. 1 Tietje started an extensive royalty buying campaign which has increased prices as high as $200 per acre base. The well is reported to be bottomed in sand at 8,166 feet, and, as yet, information on the sand section is being withheld by the company. Core recoveries have been poor and no electrical survey has been made. The well is located about 3½ miles south and slightly east of the South Elton gas field in Section 36-7s-4w, and on the same general trend with the Tepetate and North Tepetate fields in Acadia Parish, several miles to the northeast.

The second deep well on the shallow potash dome in Plaquemines Parish resulted in a new sand discovery as Humble Oil & Refining Co. No. 38 Orleans Levee District flowed 168 bbls. per day through a quarter-inch choke. It was completed. The hole was drilled to 7,980 feet, and 7-inch casing cemented at 7,963 feet. Deep production was first opened by the same company's No. 37 Orleans Levee District which was completed in oil sand at 8,065-70 feet. Location was made for No. 39 Orleans Levee Board in Section 13-18s-15e.

In the Golden Meadows field, La Fourche Parish, and about 1 mile from production, Martex Petroleum Corp. cemented 7-inch casing preparatory to testing No. 1 Falgout Holding Co., Section 9-19s-22e. The hole is bottomed at 8,522 feet and the casing was cemented on bottom as four sands showing oil have been cored at 2,645-54 feet, 7,121-7,202 feet, 7,919-64 feet, and 8,160-90 feet, all above the discovery horizon at 8,500-10 feet. The discovery horizon is reported to have carried gas in the present well.

Will Recomplete Discovery

Vendome Petroleum Co. No. 1 Kenilworth Plantation, the discovery well of a new field in St. Bernard Parish, has been killed and will be recompleted. Before the well was killed, it flowed 120 bbls. of fluid per day through one-eighth inch choke under a tubing pressure of 820 pounds and casing pressure 1,280 pounds. Thirty-five per cent of the fluid was basic sediment and salt water. Roadway is being built for the same company's No. 2 Kenilworth Plantation, north of the discovery well, but actual drilling will be held up pending the recompletion of the first well.

On the La Pice prospect, St. James Parish, Shell Oil Co., Inc., No. 1 Shexnayder, Section 38-12s-15e, flowed 12 bbls. of distillate in four hours through an 11/64-inch choke under a tubing pressure of 4,500 pounds and casing pressure 4,600 pounds. The well was completed the previous week through perforated casing at 10,928-40 feet, to open the second field in the parish. However, the well is being killed and is expected to test another sand a few hundred feet up the hole from the present perforations.

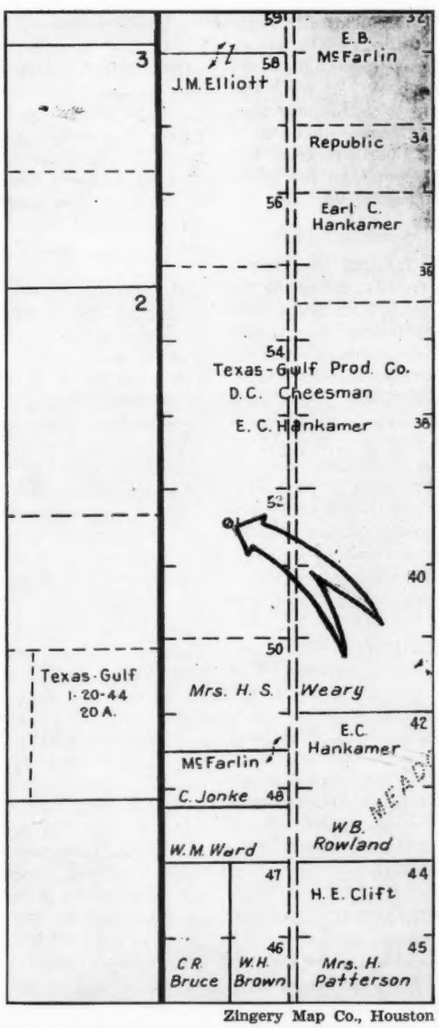
Three miles south of the town of De Quincy, Calcasieu Parish, Humble Oil & Refining Co. is moving in material for No. 1 Edgewood Land & Logging Co. in Section 32-7s-10w, on a block of several thousand acres which has been worked extensively with geophysical instruments. Other wildcat locations made include Gulf States Exploration No. 1 Greater University Lands, Section 48-7s-1e, several miles from the University field in East Baton Rouge Parish. In Orleans Parish, W. T. Burton made locations for two wells in the Lake Pontchartrain area. No. 3-B Faubourg is in Section 1-11s-13e, while No. 2 State is in Lake Pontchartrain in Township 10s-13e.

In Allen Parish, Bel Oil Co. No. 1 Bel Estate, Section 22-6s-3w, is bottomed at 8,585 feet and it is reported that casing will be cemented. While the contract depth of the well is 9,000 feet, the company has been having trouble with heaving shale and the casing may be cemented for a production test, as oil and gas sands were reported at approximately 6,000 and 6,500 feet. The well is reported to be checking several hundred feet high and leasing and royalty buying in the area has been brisk.

Watching Sparta-Wilcox Trend

Along the Sparta-Wilcox trend, E. J. Gann and others No. 1 Lee Lumber Co., Section 9-5n-3e, Rapides Parish, is being watched closely as sand with an oil odor was reported cored at 3,134-39 feet and the well is drilling ahead in the Wilcox formation at 3,350 feet. The Cockfield was topped at 1,624-36 feet and the Wilcox at 3,134 feet.

East of the Cheneyville field, Rapides Parish, Texas Canadian No. 1 Myrtle Pope, Section 56-1s-2e, was completed in the Cockfield sand at 5,704-25 feet and is showing for one of the best producers in the field.



Zingery Map Co., Houston

Texas Gulf Producing Co. and others No. 1 Weary, a probable pool opener for the Aldine area, Harris County, Texas

In the Eola field, Avoyelles Parish, Sid Richardson No. 4 Haas Investment Co., 990 feet southwest of No. 3, Section 7-2s-3e, is reported to have topped the Tertiary Wilcox sand at 8,499 feet and is coring ahead below 8,610 feet. On top of the Wilcox, the well is checking about normal with Pomo Production Co. No. 1 Sentel, the most northeasterly producer. Other wells nearing the pay are J. E. Jones No. 1 Haas Investment Co., about a mile southeast of the discovery well, drilling in shale below 8,400 feet, and Sun Oil Co. No. 1 Townsend, a quarter mile east of production which is drilling in shale below 7,320 feet. This well is reported to have cut a 110-foot fault at 3,950 feet. Gulf States Exploration Co. is building derrick in Section 8-2s-3e, while Amerada Petroleum Corp. has spudded No. 1 Marchieve in Section 6-2s-3e.

In the Roanoke field, Jefferson Davis Parish, Humble Oil & Refining Co. staked location for No. 6 Devilbiss, an outpost test in Section 14-9s-4w, about a quarter mile northwest of the company's No. 1 Fergusion which was abandoned last week at 8,008 feet.

Reports that Falcon Seaboard Oil Co. No. 1 Hoggood, located on the Pike's Peak prospect, Pointe Coupee Parish, is running "high" have attracted much attention to that area which is on an interesting geophysical prospect along the Sparta-Wilcox trend. At the close of the week the hole was below 6,267 feet, and on top of the Sparta formation topped at 6,080 feet the well was reported to be running approximately 300 feet high. The Cockfield was topped at 5,480 feet and the Cook Mountain at 5,840 feet. Showings of gas were reported logged in the Vicksburg and Cockfield horizons.

On the Texas Gulf Coast

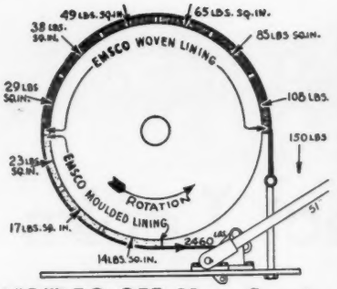
Along the Texas Coast, Texas Gulf Producing Co. and others No. 1 Weary, a prospective pool opener in the Aldine area, Harris County, is nearing contract depth of 7,500 feet, and casing is expected to be cemented at the end of the week to test the Yegua formation at 6,794-6,815 feet, where the previous week the well recovered 19 stands of pipe line oil and 95 pounds of working pressure on a 10-minute drill-stem test.

Sun Oil Co. No. 1 Hudnall, Zinn & Forman, a northeast offset to the discovery well of the newly opened Caplen field, near the Gulf of Mexico, Galveston County, tested pipe line oil from a new sand, and is coring ahead for the discovery horizon below 7,248 feet. Sand showing oil and gas was cored at 7,143-48 feet, and on a 7-minute drill-stem test at 7,135-48 feet, 115 feet of pipe line oil was recovered and pressure built up to 260 pounds. The discovery well, No. 2 Cade was completed in March at 7,474-78 feet.

Crosby Drilling Co. No. 1 Kopnicky, an outpost southeast of the Francitas field, Jackson County, flowed 111 bbls. of fluid in 24 hours through a 9/64-inch choke of which 55 per cent was salt water and 45 per cent pipe line oil. The well was brought in the previous week from a new sand at 7,460-65 feet, and indicated an excellent producer before it began to show salt water. Housh & Thompson No. 1 Broughton, Block 6, John D. Newell Survey, logged gas sand at 7,382-96 feet, and oil sand at 7,396-7,404 feet. The sand corresponds with the discovery well, but the hole is being carried deeper in search of a deeper pay.

Locations for two interesting wildcats were made in Fort Bend County. On the north flank of the Sugarland field, Atlati Royalty Corp. and others are rigging up No. 1 C. H. Stancliff in the A. Alcorn Survey, about 990 feet southwest of two dry holes recently drilled by Strake Petroleum Corp. East of Richmond, Royal Oil & Gas Co. is moving in material for No. 1 Bertrand, a 6,500-foot test in the J. Wilkens Survey. In Liberty County and located approximately 2 miles southeast of

(Continued on Page 128)



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Among the Drilling

BIG WEST DRILLING CO., Tulsa and Dallas, Tex., has been given the contract by Stanolind Oil & Gas Co. for its new test in Montague County, North Texas. Stanolind No. 1 W. L. Zachary, on a 40-acre lease in the Jacob LeNow Survey, is a west offset to the discovery well in the Burnett deep sand oil pool 1 mile west of Nocona. Rogers & Rogers opened the pool in February with No. 1 Burnett which gauged 523 bbls. of oil daily from the Bend sand from 4,639-56 feet. Little development has been seen in the area until the past few weeks.

GRACE & WOOD, contractors and operators of Wichita Falls, Tex., have staked and are preparing to commence operations at two new tests in the K.M.A. field of Wichita and Archer counties, North Texas. The operators have located their No. 2 M. A. Love 1,155 feet from the south line of the W. S. Kennard Survey, Abstract 171, while their No. 3 M. A. Love is 1,981 feet from the west and 8,000 feet from the south lines of the same survey and abstract.

PARKER DRILLING CO., Tulsa, and Fort Worth, Tex., is rigging up machinery at No. 1 Allie Scott, Tide Water-Seaboard-Humble new operation in the Opelika area of northern Henderson County, eastern Texas. The test is a wildcat and is in the center of a 97-acre tract in the Cleveland Robb Survey, approximately 3 miles southwest of the discovery well in the area. The field is producing distillate from the Glen Rose formation of the lower Marine Trinity series and the new test will attempt to find oil production on the flank of the structure.

RICHARDS & HOLLOWAY, Tyler Tex., have received contract for a new wildcat test in the extreme northwestern corner of Smith County, East Texas. Dr. V. V. Grant and associates made location for their No. 1 Mrs. E. T. Thweatt, 1½ miles northeast of Garden Valley, on a block of 7,000 acres. Contract depth is the Woodbine sand expected to be reached in 4,000 feet.

F. & M. DRILLING CO. (Francisco & Miles, Cisco) opened a new pool in Callahan County for Charles J. Kleiner and L. A. Warren at their No. 1 B. P. Cozart. The test is near the Eastland and Callahan counties line and about 2 miles northwest of Scranton. Gauge on the well was 60 bbls. of oil and 2 bbls. of water in 24 hours. Production is from sand encountered from 1,660-75 feet. It is located on a 100-acre tract in the M. Cherry Survey, offsetting Phillips Petroleum Co. No. 1 Cozart, abandoned last February in the Ellenburger lime at 4,140 feet after having passed up the shallow showing.

KERLYN OIL CO., Oklahoma City, has received the drilling contract from Sinclair Prairie Oil Co. for its 5,000-foot wildcat test in southwestern Grayson County, North Texas. The test is No. 1 Mollie Williams, R. H. Sowell Survey, about 9,000 feet south of Mildred Kerlyn Oil Co. No. 1 Neathery, producing from sand at 3,862 feet to 3,874 feet. Rig will be moved from the Kerlyn Oil Co. No. 1 Butterly, test drilling in Garvin County, Okla.

HOLCOMB & THOMASON, Shreveport drilling contractors, have contracted a wildcat to be drilled for Turner & Smith in Panola County, Texas. The test, known as No. 1 J. W. Bird, is about 3 miles northeast of two Glen Rose gas distillate producers brought in several months ago.

RUTHERFORD DRILLING CO. is rigging up for a wildcat test 3½ miles east of the town of Richmond in Fort Bend County, Texas. The well is on the W. T. Bertrand lease in the Jane Wilkins Survey, and is being drilled jointly with Royal Oil & Gas Co. and Trinity Petroleum Co. In the Bonnieview area, Refugio County, drilling was started on Royal Oil & Gas Co. and P. R. Rutherford No. 1 Jurica, while in the same county in the La Rosa field No. 2-A Schirmer has been spudded.

ALLEN & MORRIS received contract for two new wells. Six miles east of the town of Mathis, San Patricio County, Texas, Seaboard Oil Co. No. 1 A. Parsons has been spudded. The well is in Section 29, Pauls subdivision of the Welder ranch. In the Clara Driscoll field, Nueces County, Ralph Ogden No. 1 Miller is being rigged up. In the La Rosa field, Coronado Corp. No. 14 Rooke has been completed at 5,190 feet and the rig is being moved to another location. Two other operations are reported for the same company on the Yarrow and Spaulding leases.

GLENN H. McCARTHY received contract for a 9,000-foot wildcat in Willacy County, Texas, from Midwest Royalty Co. The well is about

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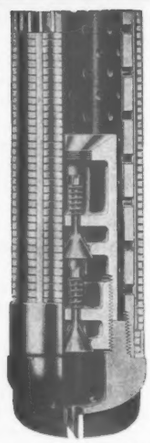
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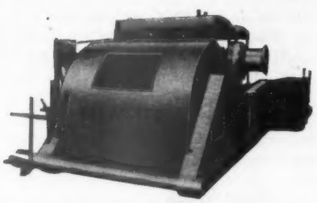

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4 miles west of Lyford on a block of approximately 20,000 acres extending into Hidalgo County. In the Bellaire area, west of Houston, Midwest Royalty Co. No. 1 Westmoreland Farms is drilling below 9,450 feet, while in the League City field, Galveston County, one operation is reported for Phillips Petroleum Co.

SAWYER DRILLING CO of Tulsa has moved a large Diesel-electric rig to the active East White Point field in San Patricio County, Texas, where contracts for several wells were received from Sinclair Prairie Oil Co. At the present time the rig is on the Womack lease and it is reported it will be moved into Corpus Bay which adjoins the field on the south. The water location will also be drilled for the same company.

LOFFLAND BROTHERS are expected to start two new operations on the north flank of the Thompson field, Fort Bend County, Texas, where two weeks ago a new sand was opened for H. M. Naylor, who made locations for two new wells.

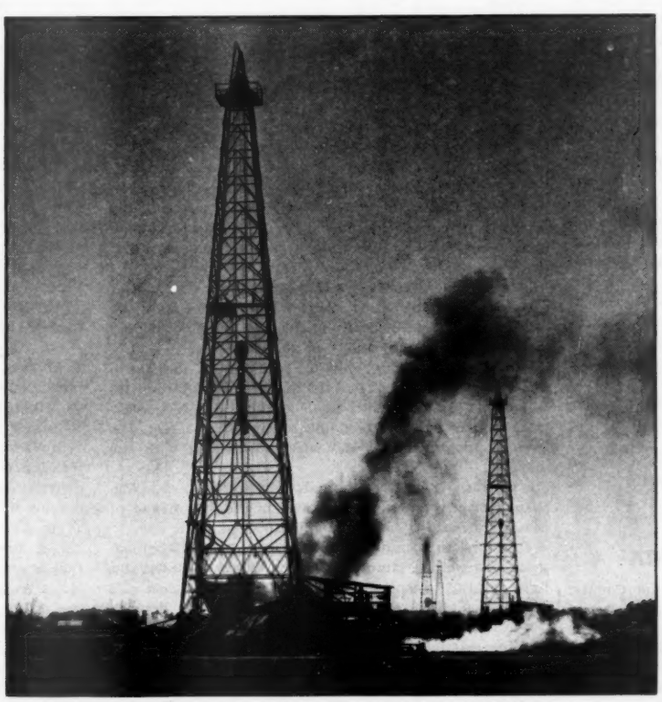
ROWAN & HOPE are drilling below 6,200 feet on No. 1 Longoria, an interesting wildcat in Hidalgo County, Texas, while in the Rincon area, east central Starr County, No. 1 W. I. Cameron, a joint test with Transwestern Oil Co., is drilling below 1,500 feet.

KIRK-GREEN-WAY, INC., Tulsa, is ready to spud No. 1 Kautz, NW SW SE Section 6-18-2, Payne County, Oklahoma.

HUGHES DRILLING CO. drilled No. 1 Misener, NE NW Section 10-20-4w, Garfield County, Oklahoma, to a total depth of 5,619 feet. It has been estimated that the well is good for 150 to 175 bbls. of oil daily through the casing. The well is shut in waiting for pipe line connections. This company is building a derrick and moving in equipment at No. 1 Looman, NE NE SE Section 9-20-4w, in the same area.

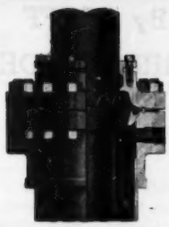
NOBLE DRILLING CO., Tulsa, at the deep test being drilled for Pure Oil Co. in southern Oklahoma in C NE SE Section 35-3s-1e, northwest of Ardmore, in Carter County, is in lime with some sand at 7,805 feet. No oil shows were reported.

MANAHAN DRILLING CO., Tulsa, started two wells last week for Sinclair Prairie Oil Co. in the Gainesville area designated as Nos. 9 and 10, T. Toby Survey, Cook County, Texas.



Fairbanks field, Harris County, Texas

SOMETHING NEW IN CASING HEADS



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Eastern Field Report

By STAFF CORRESPONDENT

Ripley Test Finds Oriskany Sand Barren at 5,020 Feet

PITTSBURGH, Pa., May 1.—Columbian Carbon Co. wildcat on the G. W. Lathey farm in Ripley district. Jackson County, West Virginia, has been drilled through Oriskany sand with no showing of gas. Starting at an elevation of 810 feet, the Corniferous lime was topped at 4,822 feet and the Oriskany at 4,931 feet. About 26 feet of sand was penetrated and the total depth was about 5,020 feet. This test is located on Little Branch of Parchment Creek on the west flank of the Parkersburg syncline.

Another deep test of this company has reached an interesting stage after months of difficulties due to shale oil and fishing. It is on the consolidation of the N. L. Ervin, Giles Hammat, and Edward Hammat heirs interests in Grant district, Pleasants County, West Virginia, on the Marietta Quadrangle about 1 mile southwest of Belmont and 1 mile south of Eureka on the Ohio River in the block Latitude 39 degrees 20-25 minutes, Longitude 81 degrees 15-20 minutes. It has an elevation of 966.5 feet just west of the surface high of the Burning Springs anticline and the southern end of the north closure. The Corniferous lime was topped at 5,000 feet and it is drilling at 5,036 feet. No additional pipe will be run until the sand is reached as there is only 230 feet of open hole. Seven-inch casing has been set at 4,770 feet.

In Boone County, West Virginia, Owens-Illinois Glass Co. is continuing an interesting test below the Oriskany in No. 13 Bull Creek Coal Land Co. in Sherman district. Starting at an elevation of 779 feet, the Corniferous was topped at 4,478 feet with the Oriskany at 4,555-91 feet. The Oriskany sand appeared to have been worked over as in a shore line condition, and was void of any showing. The Newburg horizon started at about 5,000 feet with dolomitic showing and at 5,241 feet there was a good sand and a showing of 60,000 cu. ft. a day of gas, which has continued with the hole now at 5,500 feet.

This test is 2,400 feet south 70 degrees west of their No. 12 on this lease in the same district which was completed last year as a gas well in the Oriskany sand, and is on the headwaters of Road Fork of Bull Creek in the extreme northeast corner of Boone County. On the Peytona Quadrangle it is 2.2 miles south of Latitude 38 degrees 15 minutes and .75 mile east of Longitude 81 degrees 40 minutes. The test was located up the Warfield anticline from the Oriskany gas well almost on a surface high and it may be drilled to the Clinton sand.

Only three wells were reported from Southeast Ohio during the week of which two were in the new development in Cuyahoga County. In Lot 24, Hoghland Heights village, Benedum & Trees completed a gas well on the R. Wise lease (mapped Bailles and Presley) in Newburg sand at a total depth of 2,854 feet. It gauged 1,750,000 cu. ft. a day with 2 bbls. of crude oil. It was shot. On Lot 43, in the same village, these operators completed No. 1 H. Davis, in Newburg sand at a total depth of 2,832 feet and it is gauging 1,300,000 cu. ft. a day with 2 bbls. of oil. It is also producing naturally.

In Licking County, Ira Hazlett completed a test on the Crosby Rogers farm in Newark Township in the Clinton sand at a depth of 2,560 feet and it is a gas well gauging 1,500,000 cu. ft. a day.

SOUTHWEST PENNSYLVANIA

In South Franklin Township, Washington County, Pennsylvania, Foley and Williams completed a second test on the Ira Baldwin farm at 1,360 feet with the second Salt sand at 1,305 feet and 50,000 cu. ft. of gas at 1,355 feet.

In Amwell Township, Washington County, Shivers & Co., formerly Williams & Co., are rigging up on the Morgan Prigg farm. Carnegie Natural Gas Co. is rigging up to deepen No. 1 W. S. Booth. The Penn Ohio Oil & Gas Co. is pulling tubing to deepen No. 1 John Russell. A. V. Lewis and others are drilling at 2,530 feet in No. 2 Sarah R. C. Dodd.

In Morris Township, Washington County, Manufacturers Light & Heat Co. is drilling at 2,100 feet in No. 3578 R. W. Parkinson. In North Franklin Township, E. H. and J. B. Tague are ready to start No. 15 William McKennan Estate.

In South Fayette Township, Allegheny County, E. J. Dunn was drilling at 2,160 feet on the J. J. Bowman farm. In Jackson Township, Butler County, William Pfeiffer is down 800 feet in No. 3 Ira Beame.

In Richhill Township, Greene County, Manufacturers Light & Heat Co. made a location for No. 4 Barnett Wiley, and Burleigh Wright reached 2,400 feet in the Strawn heirs test and shut down.

In Washington Township, Greene County, Equitable Gas Co. is drilling at 860 feet in No. 3 John Huffman, and is drilling at 2,970 feet deepening No. 1 J. I. Clutter, in Center Township, and is shut down at 3,075 feet for repairs in No. 1 H. E. Chaney, in Jackson Township.

Deep Tests

On Chestnut Ridge in Springhill Township, Fayette County, the L. J. Houze Convex Glass Co. has again reached the chert in the test on the Paul Dunham farm after sidetracking the tools, lost in the Onondaga. The hole is being measured and a liner may be run from the Tully lime, where the casing was set, to the top of the chert.

In Rochester Township, Beaver County, Columbian Fuel Co. has reached 400 feet on the Abbie Linnenbrink and others lease, three-quarters of a mile due north of Dam No. 5. W. O. Dunham, of Huntington, W. Va., is the contractor.

In Armstrong County, Peoples Natural Gas Co. is drilling at 4,155 feet on the Lowry Martin farm in Wayne Township on the Greendale anticline.

WEST VIRGINIA

In Pleasants County, West Virginia, Watson Oil & Gas Co. completed a well on the F. M. Lamp farm in Lafayette district, in the Keener sand at 1,681 feet, and it is showing for 6 bbls. a day with about 50,000 cu. ft. of gas.

In Roane County, Rodgers Properties Co. test on the O. P. Ball farm in Curtis district, was completed at 1,695 feet, with the Salt sand topped at 1,664 feet, and about 5 bbls. a day after a 60-quart shot at 1,672-90 feet.

In Ritchie County, A. R. Kelley, on the Walter Shields farm in Grant district, drilled through the Squaw sand to 1,736 feet and it had a showing of only a half barrel a day and was abandoned.

In Gilmer County, Paul K. Weekley on the Sterm and Turner farm in DeKalb district topped the Gas sand at 1,612 feet, with some gas at 1,620 feet; Maxton sand at 1,669-95 feet and oil at 1,677-90 feet, the well making 5 bbls. a day after shot along with the gas.

In this district, Elliott and Cain, on the Scott Williams farm, completed a gas well in the Injun sand at 1,808 feet, and it is good for 500,000 cu. ft. a day.

In Lincoln County, Dry Fork Oil & Gas Co. completed a test on the Minnie G. Adkins farm in Union district, at 1,010 feet, with the Salt sand at 945 feet and 784,000 cu. ft. of gas at 1,002-10 feet. In this district, Sweetland Land & Mineral Co. deepened No. 1 J. J. Smith, starting at 2,027 feet, with Brown shale at 3,000-3,302 feet, and a gauge of 116,000 cu. ft. a day after the shot.

In Pleasants County, Hart Oil & Gas Co. completed No. 2 Raynod K. Hart, on Little Panther Run in McKim district in the Maxton sand at 1,720 feet, as a gas well gauging 300,000 cu. ft. a day.

In Ritchie County, J. L. Davis' test on the L. C. Stephens farm in Grant district, was drilled through Squaw sand to 1,918 feet, and it had a showing of 50,000 cu. ft. a day, but was abandoned.

Oriskany Gas Field

No new wells were completed in the Oriskany gas field in Kanawha County.

New Work

In Cabell County, West Virginia Gas Co. is building rig for No. 1 G. W. Savage in the McComas district. Bowen Gas Co. is drilling at 1,960 feet in No. 2 W. S. Childers; United Fuel Gas Co. at 1,650 feet in No. 4833 Wesley Creamens ; R. H. Adkins at 3,100 feet in the B. L. Perry test; Elkins Gas Co. at 2,300 feet in No. 2 Leonard Paugh. In the Grant district, J. W. Wilson and others are down 1,635 feet in the William H. Birch test.

In Calhoun County, Kenny M. Hunt has rig standing for the A. J. Huffman test in the Sherman district. In Center district, W. H. Bickel is drilling at 1,625 feet in No. 2 J. W. Holbert. In the Lee district, Everett Starcher and others have reached 2,095 feet in No. 2 S. Slider.

In Clay County, Thompson Gas Co. is rigging up Nos. 13 and 14 on the Thompson Land & Coal Co. in Pleasant district. In this district Elk River Gas Co. is drilling at 3,545 feet in the J. S. Brown test. In Otter district, Pittsburgh & West Virginia Gas Co. is down 402 feet in No. 7666 W. M. Duffield.

In Fayette County, Northwestern Oil & Gas Co. has spudded in and started drilling No. 4 Deitz Colliery Co. and has rig up for No. 5.

In Gilmer County, W. H. Satterfield has a location for a test on the W. L. Jones, Ross Stern royalty, in DeKalb district. The McCall Drilling Co. is down 600 feet in No. 2 J. H. Houghton. In Glenville district, Pittsburgh & West Virginia Gas Co. is drilling at 1,450 feet in No. 7670 E. D. Fulton. In Birch district, Braxton County, this company is drilling at 1,772 feet in No. 2 E. D. Boggs and others; at 600 feet in the W. M. Duffield test and at 950 feet in the T. Nottingham test.

In Lincoln County, Guyan Gas Co. made a location on the J. W. and Martha Russell Heirs on Bull Field Branch of Mud River in Union district; Ward Gas Co. drilling at 835 feet in the Ward Stowers test; Woodall Gas Co., at 2,600 feet in No. 2 R. L. Stowers; Big Laurel Gas Co., at 2,115 feet in No. 2 Callaway Plumley. In Jefferson district, Harmon Gas Co. is moving in for the H. P. Lovejoy test; Left Fork Oil & Gas Co., spudding in the Lucinda Lovejoy test.

In Mingo County, Kermit Gas Co. is drilling at 1,117 feet in the McCormick and others test in Kermit district. In Putnam County, the Chartiers Oil Co. is drilling at 1,230 feet in No. 1 I. J. and W. Buskirk in Butler district.

In Pleasants County, Riggs Farm Oil Co. made a location on the H. C. McCullough farm in Lafayette district. In Washington district, Ward & Deem are drilling at 1,460 feet in Nos. 4 Cassie Dye Heirs.

In Ritchie County, J. F. Deem made a location for No. 3 Mansfield Haught in the Murphy district. In Clay district, the M and Y Oil Co. has a rig up for No. 4 Sada McGinnis.

In Tyler County, American Oil & Development Co. made location for a test on the Osborn Allen farm in McElroy district. In Wood County, Millinger and others started drilling on the John Marshall land in Union district. Biddle & Gabbert have rig standing on the E. E. Anderson farm in Williams district.

(Continued on Page 129)

Southwest Texas District

By
F. L. SINGLETON

Jim Wells County Has 3 New Frio-Vicksburg Trend Pools

CORPUS CHRISTI, Tex., May 1.—Three pools were being added to the Jim Wells County sector of the Frio-Vicksburg trend while a fourth test in the same county was in the process of completion. Other interesting developments in Southwest Texas included the apparent discovery of a new pool in Nueces County, and the opening of a new sand in the Richard King field.

Approximately 7½ miles southeast of Alice, F. A. Gillespie & Sons No. 1 Shear, A.B.&M. Survey, flowed 82 bbls. of pipe line oil per day through a 7/64-inch choke under a tubing pressure of 1,450 pounds and casing pressure of 2,020 pounds. The hole is bottomed at a sidetracked depth of 5,454 feet, and the well is producing through perforated casing at 5,439-46 feet. The well was drilled on a farm-out lease from Shell Petroleum Corp.

Gravis & Doran No. 1 Muil, about 3½ miles north of the above well and approximately 1 mile south of the same operators' No. 1 Clark, a distillate producer, was flowing at the rate of 3 bbls. of fluid per hour of which 50 per cent was oil and the remainder wash water, when a fresh water flow from approximately 500 feet broke in between the surface pipe and the 7-inch casing, and started to flow a 2-inch stream outside of the surface casing. The well was killed before it cleaned itself, and the casing will be perforated and the water flow squeezed off. The hole is bottomed in oil sand at 5,326-30 feet, and the well was tested after 7-inch casing was cemented at 5,325 feet. The well is in the J. Poitevent Survey and is generally looked upon as a pool opener in view of the fact that the first well drilled in the area, failed to produce from the same section, and was plugged back and completed for a small distillate producer at 4,805-14 feet.

Texas Gulf Producing Co. No. 1 Garza, approximately 10 miles northwest of the town of Alice, perforated casing at 6,465-85 feet, and was flowing an estimated 2 bbls. of fluid per hour of which 30 per cent was oil and the balance wash water. This well was drilled to a total depth of 6,862 feet, and is producing from the Yegua sand which is the first production of this type in the county.

In the eastern part of the county, on the Springfield townsite, Parr Drilling Co. No. 1 Hoffman was preparing to test after 5½-inch casing was cemented on bottom at 5,806 feet. This well attempted to blow out when it drilled into sand at 5,626 feet. Sidewall cores at 5,629 feet, 5,630 feet, 5,631 feet, and 5,632 feet, showed sand with an oil odor.

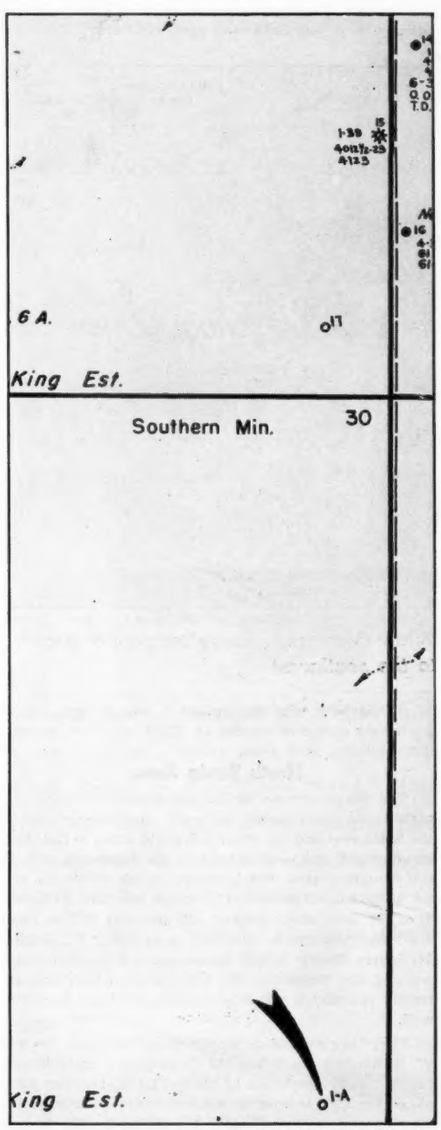
Ike Howeth and others No. 1 I. S. Adams, which the previous week opened a new field southwest of the Alfred field, flowed 264 bbls. of 46-gravity oil daily on a 24-hour potential test. The test was made on a three-sixteenths inch choke and casing pressure was 1,050 pounds and tubing pressure 825 pounds. The same operator has moved the rig for a northeast offset, while Lonnie Glasscock has derrick up for another test southeast of the well.

Jim Wells County has by far been the most active wildcat area in South Texas during the first of the year. The successful completion of the above wells will make a total of six discoveries in the county since January 1.

Prospect in Nueces County

North of the Luby field, Nueces County, Seaboard Oil Co. No. 1 John LaPrelle showed evidence of opening a new field as a result of a 15-minute drill-stem test at 4,347-61 feet, tested 630 feet of 49-gravity oil and 90 feet of mud. Shaly sand with a good oil odor was cored at 4,352-61 feet. While the well is only about 1½ miles north of the Luby field proper and the showing was found at approximately the same depth it is generally believed to be located on a separate structure in view of a dry hole between the well and the field proper. At the end of the week the company was drilling ahead in the hope of picking up the 5,300-foot sand. The well is located in Lot 9, Roberts and White subdivision of the Robert Schallert tract.

Production from a new sand which will extend production of the Richard King field, Nueces County, 1½ miles south, was practically assured as Southern Minerals Corp. cemented casing in No. 1-A Richard King. On a 25-minute drill-stem test at 5,401-16 feet, the recovery was 3,850 feet of pipe line oil, 250 feet of drilling mud, cut with oil, and 50 feet of water. On a previous test at 5,387-5,403 feet, the well flowed oil for 25 minutes, and after the tool was closed, 1,350 feet of oil was recovered and the pressure built up to 200 pounds. The main production in the field proper is found at approximately 4,000 feet, although a small producer resulted from a new sand discovery several weeks ago at 6,100 feet.



Zingery Map Co., Houston

Southern Minerals No. 1-A King which opens a new producing sand and an important extension for the Richard King field, Nueces County

Another wildcat in the same county being watched closely is O. W. Killam No. 1 Smith, which is drilling in shale below 6,834 feet. Sand with an oil odor was cored at 5,955-59 feet. and shaly sand with an oil odor at 5,959-65 feet. On a 15-minute drill-stem test at 5,955-65 feet it showed 30 feet of mud, a little oil, and 1 gallon of salt water.

In the East White Point field, San Patricio County, 2 wells were in the process of completion and 10 other operations were reported. On the south side of the field and the most southerly location, Sinclair Prairie Oil Co. No. 3 Womack cored oil sand at 5,649-75 feet. the total depth, and 7-inch casing was cemented on bottom. This well is within a quarter of a mile of Corpus Christi Bay, in which locations for several wells have already been made. Nueces Royalty Co. No. 1 Muil logged oil sand at 5,592-5,616 feet, and casing was cemented at 5,684 feet, the total depth.

Townsite Drilling

In the McCampbell field, Aransas and San Patricio counties, R. B. Bryant is drilling below 4,000 feet on No. 2 Losoya, Lot 13, Block 756, drilling district No. 15. This is the first well started since the completion of the first producer several weeks ago. Drilling throughout the field has slowed down to some extent during the past few weeks, although there are still 16 rotaries active. Corgey & Grote, who own a majority of the drilling permits within the townsite, were granted a 15-day extension from May 1 before starting drilling operations on the first of 18 permits. The new contract calls for the first well to be spudded by May 15 and requires an offset to be drilled every 30 days.

Along the Pettus trend, Duval County, Gravis & Doran No. 1 Parr, 2 miles southeast of the Longhorn field, squeezed off perforations at 5,955-60 feet, from which depth it swabbed salt water, with a slight showing of oil. Casing was cemented following a drill-stem test which showed 175 pounds of pressure, 80 feet of oil and mud, and 225 feet of salt water.

In the Balcones fault line district, Midwestern Petroleum Co. No. 3 Anderson, Green Dewitt Survey, Guadalupe County, is expected to cement casing for a production test after 14 feet of saturated Buda lime was cored at 2,355-66 feet, the total depth. This is an old hole originally drilled to a total depth of 2,355 feet by J. E. Clark. The Buda lime was topped at 2,350 feet.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Aransas-San Patricio Counties

McCampbell field: Bryant and others No. 1 Cavender, perforated casing 7,128-38 feet, 95 bbls., one-eighth inch choke. Bryant and others No. 1 Losoya Oil Co., perforated casing 7,125-34 feet, 80 bbls., one-eighth inch choke. Corgey & Grote No. 1 Peterson, 7,150 feet, 70 bbls., one-eighth inch choke. San Pat Oil Co. No. 2 Cavitt, perforated casing 6,781-86 feet, 75 bbls., one-eighth inch choke.

Bexar County

Coffey field: Thomas Cook No. 4 Russell, 1,160 feet, abandoned.

Caldwell County

Dale field: Ralph Ogden No. 8-B Lackey, 2,520 feet, abandoned. Luling field: Prairie Lea Production Co. No. 8-B Merriweather, 2,089 feet, 50 bbls., pumping.

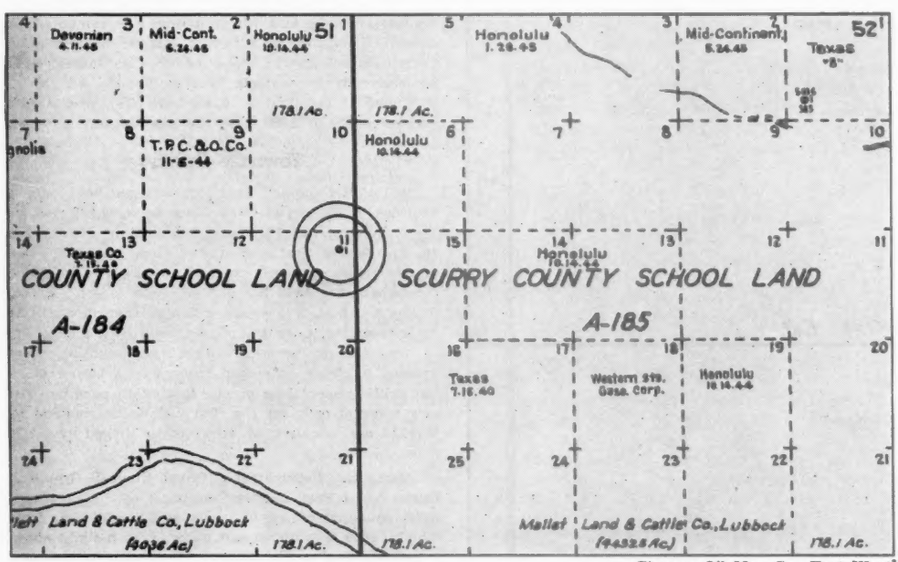
(Continued on Page 128)

Ordovician Pool Prospect in Northern Pecos County

By
D. H. STORMONT

FORT WORTH, Tex., May 1.—West Texas experienced one of its busiest weeks since the spring upturn in activity. Pecos County was given indications of an Ordovician oil pool as well as a new shallow pool; the Keystone pool of Winkler County received a three-fourths mile extension, and the Slaughter pool of Hockley County, in the North Basin area, received a 1-mile northwest extension and promise of a 3-mile southwest extension.

Perhaps the most important oil strike of the week was the Anderson-Prichard Oil Corp. No. 1 M. I. Masterson, offering prospects of West Texas' third oil pool in the Ellenburger lime of Lower Ordovician age. It is the first deep test to indicate commercial production from the Ellenburger in Pecos County although several exploratory tests have been drilled in the past two years. Casing has been cemented at 4,542 feet for a test of the section from 4,548-95 feet. On a 38-minute drill-stem test the well, in the heart of the Masterson pool of northern Pecos County, showed gas rating 92,000 cu. ft. daily and 420 feet of fluid. One hundred and eight feet of the fluid was clean oil and 240 feet was mud, cut with 75 to 90 per cent oil. Gravity was reported 42 degrees and bottom-hole pressure was 2,350 pounds.



Zingery Oil Map Co., Fort Worth

Texas Co. No. 1-C Mallett, has extended the rapidly developing Slaughter pool of Hockley County 2½ miles to the southwest

The operators plan to treat the lime with acid. If production fails the well will be carried to its contract depth of 6,000 feet. The top of the Ellenburger was found at 4,554 feet, 2,129 feet below sea level. This was 1,588 feet higher than the Magnolia Petroleum Co. and Tex-Mex No. 1-A McKee, 10¾ miles to the north and slightly west. The No. 1-A McKee topped the Simpson member of Ordovician high and encountered several shows while drilling through it, however the Ellenburger was found barren. The well is in Section 104, Block 10, H.&G.N. Survey.

Possible shallow oil production was indicated in another scheduled Ordovician wildcat in Pecos County. Magnolia Petroleum Co. No. 1 Abell-Eaton, Section 23, Block 3, H.&T.C. Survey, 3 miles south of the Masterson pool, encountered saturated lime and sand at 1,890-94 feet. Seven-inch casing has been set and the rig moved 30 feet east to start a new test for the Ellenburger. Cable tools are being rigged up preparatory to testing the shallow oil show.

Production three-fourths of a mile north of the Keystone pool of Winkler County was indicated at the R. E. Harding, Jr., and C. W. Morgan No. 1 Gulf-Jenkins. The well, in Section 13, Block 77, P.S.L. Survey, on a farmout from the Gulf Oil Corp., had a showing of gas in sand at 3,207-10 feet, with other gas showings from 3,216 feet to 3,270 feet. First oil was found at 3,292 feet, where it rose 500 feet in the hole while drilling to 3,326 feet. As the week closed operators were preparing to run a shot after the well had headed an estimated 150 bbls. of oil at intervals during 24 hours.

In Ector County, production slightly more than 2 miles west of the Goldsmith pool will be sought by Sid W. Richardson who has staked a wildcat test in the northwest corner of Section 13, Block 45, T.&P. Survey.

North Basin Area

The Slaughter pool of Hockley County received two major extensions during the week, one being a mile to the northwest and the other being 2½ miles to the west. Production 5 miles southwest of the discovery well in the Slaughter pool was indicated at the Texas Co. No. 1-C Mallett Land & Cattle Co., which has been bottomed at 5,050 feet after drilling oil and gas shows from 4,957 feet to bottom. The well is in Labor 11, League 51, Scurry County School Lands and is 2½ miles southwest of the Texas Co. No. 1-B Mallett which had extended production 2½ miles southwest of the discovery well.

The other extension for the Slaughter pool was Sid W. Richardson No. 1 Sun Oil Co.-Denton County School Lands, 1 mile northwest of his No. 1 Coe, recently completed for 2,040 bbls. of oil daily to afford a 1-mile northwest extension to the pool. No. 1 Sun-Denton is bottomed at 4,965 feet and was swabbing an estimated 7 bbls. of oil per hour after initial treatment with 2,000 gallons of acid. The test cored broken oil shows from 4,839 feet to total depth.

In Yoakum County, Aloco Oil Co. has staked a south offset to the Texas Pacific Coal & Oil Co. No. 1 T. P. Brownfield, wildcat producer between the Denver and the Bennett fields. The offset is No. 1 I. N. Greer, Section 802. The No. 1 Brownfield was completed for 928 bbls. of oil daily and is now shut in waiting pipe line connection.

WEST CENTRAL TEXAS

A possible shallow oil pool for Throckmorton County, new locations and producers for the Griffin pool, and new wildcat locations in several counties featured the week's activity in the West Central Texas district.

A new shallow oil pool in Throckmorton County was indicated at a test drilled by Ed Sproles and others on the R. W. Kelly lands, J. B. Graham subdivision of the Andrew Morgan Survey, southwest part of the county. Twenty feet of saturation was drilled and it was reported to have been flowing at the rate of about 80 bbls. of oil per day, bottomed at 775 feet. Location was staked for a south offset to the producer, on the McKeitchen farm of the D. T. Yates Subdivision. No. 1 Kelly is the third well drilled in the area by Sproles and others, the first having been junked and the second having been completed from 730 feet for 20 bbls. daily.

Two new tests for the northeast edge of the Griffin pool of Jones County have been staked. Consolidated Oil Co. and Ray Oil Co. No. 3 Mrs. J. A. McCaskey, Section 194, B.B.B.&C. Survey, was completed for 373 bbls. of oil in four hours to give the pool a two-location east extension. The new completion had saturation at 3,250-68 feet, total depth. Operators have skidded rig to a north offset, No. 4 McCaskey. An east offset to the producer has been staked by the Iron Mountain Oil Co. and Humble Oil & Refining Co. as No. 1 W. P. Cockrell.

New Wildcats

In Concho County, seeking Ordovician production after striking gas in two horizons and casing it off, Clymore Co., Inc., No. 1 T. Y. Hill, southeastern Concho County wildcat 2½ miles southeast of Doole, had drilled to 2,380 feet in lime. The No. 1 Hill a month ago struck an estimated 4 to 5 million cubic feet of dry, sweet gas daily at 1,913-53 feet. The gas was shut off when casing was reamed down to 1,960 feet. Latest showing in the wildcat was from 2,731-75 feet. Top of the Ellenburger has been picked at 2,337 feet. Location is in the southeast corner of the J. Frederick Survey 1694, Certificate 316, Abstract 197.

Two wildcats were staked in Taylor County, and one each in Stephens and Shackelford counties. D. H. Bolin, operator in the K.M.A. pool of Wichita County, will drill on the Mabel Neill lands of the northeast part of Section 31, Block 17, T.&P. Survey. The wildcat, a proposed 2,500-foot cable test, is 1½ miles northeast of Tye and southwest of Abilene. Stephen County's new operation was the Leonard Simon No. 1 Alice Beck, 3 miles south of Caddo, and in the vicinity of an oil well brought in 16 years ago by Mr. Simon, which is still producing. The well will seek production from the Strawn sand at around 1,800 feet.

Charles Crenshaw and others of Fort Worth have started a shallow test in Shackelford County 7 miles east of Albany on the Fannie J. Lynch lands of Section 1568, T.E.&L. Survey. Production will be sought from the Tannehill sand.

WEST TEXAS COMPLETIONS

(24-hour gauges)

Andrews County

Humble Oil & Refining Co. No. 59 J. S. Means, 4,500-20 feet, 2,664 bbls. Osage Drilling Co. No. 1 University-Phillips, 4,168-4,242 feet, 1,391 bbls. Sinclair Prairie Oil Co. No. 5 Emma Cowden, 4,165-4,236 feet, 1,156 bbls.

(Continued on Page 121)

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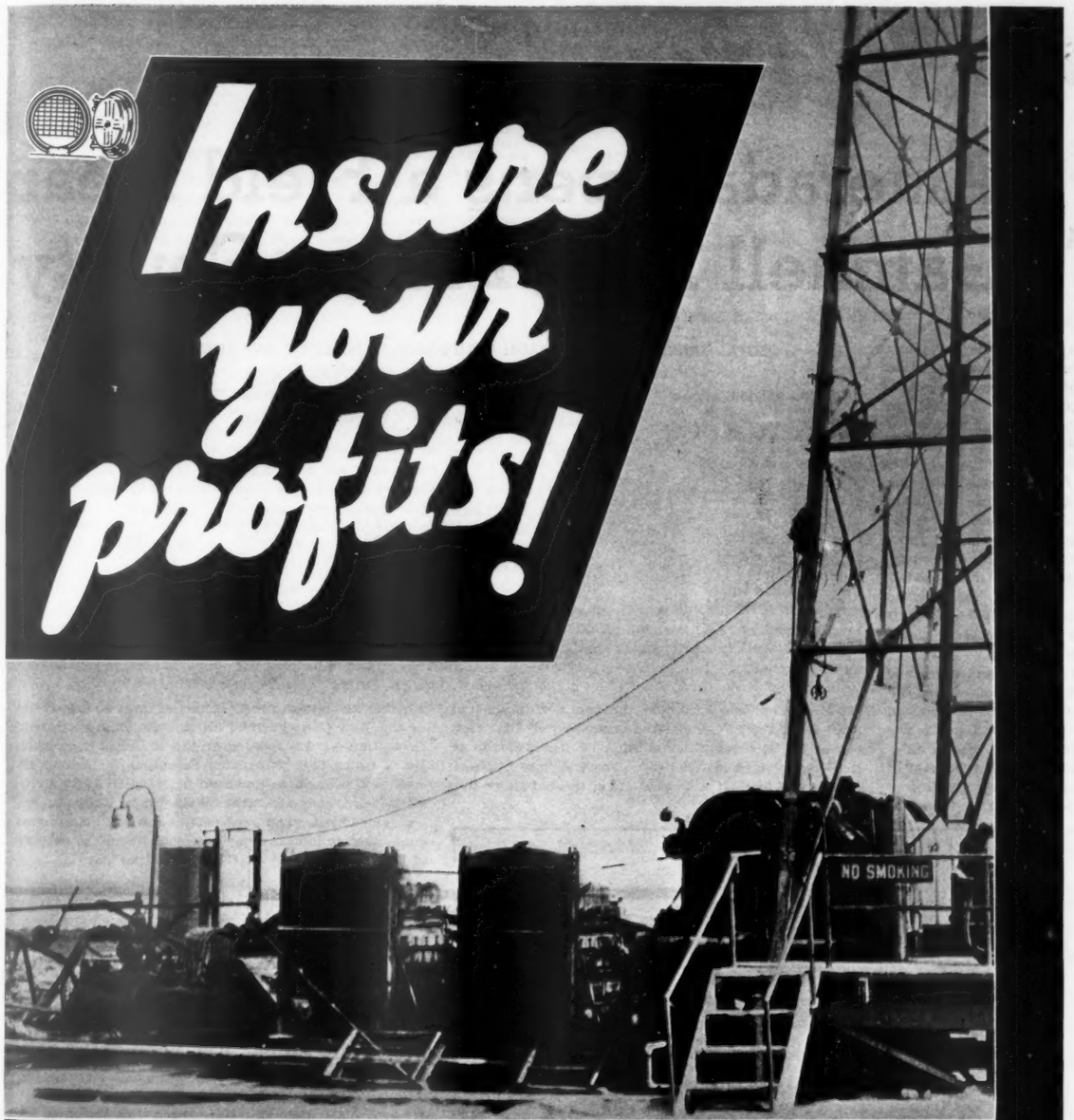

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California Field Report

By L. P. STOCKMAN

Amerada Opens a Field Near Gatchell Pool, Fresno County

LOS ANGELES, Calif., May 1—Amerada Petroleum Corp. is believed to have discovered a pool in Fresno County about 4 miles north of the Gatchell or Southeast Coalinga field. The company's No. 7-17 S.P.L. in Section 17-19-16 was brought in flowing at the rate of 4,250 bbls. a day of 32.3-gravity oil and 14,200,000 cu. ft. of gas from 8,237 feet. It shows a high gas-oil ratio, in contrast with wells in the Gatchell area, indicating that it may be located on a new structure. Wells in the Gatchell area average around 350,000 cu. ft. of gas per day and show an unusually low gas-oil ratio. No. 7-17 S.P.L. is only producing from the upper part of the zone and would undoubtedly show more production if the entire zone was produced. In order to minimize production of gas the company blanked off the upper 40 feet of zone as the gas cap prevented maximum production of crude oil.

Amerada's new well is located 1,050 feet north and 330 feet east of the southwest corner of Section 17-19-16 and was spudded in January 19, and completed April 24 at 2:30 p.m. and was turned to tanks two hours later. Pipe record consists of 622 feet of 13⅜-inch casing, 8,022 feet of 7-inch casing and 263 feet of 5-inch Securaloy drillable liner including 139 feet of 100-mesh and was cemented through perforations at 8,295 feet. Top of the oil sand was cored at 8,037 feet, top of the Glauconitic sand at 7,960 feet and top of the Kreyenhagen at 6,995 feet. The well has an elevation of 529 feet. It is located along the old shore line which extends northward from the most southerly tip of the East Coalinga field around the edge of the old field. Interest was focused on this area last year when No. 2 Gatchell of Petroleum Securities in Section 18-20-16 was brought in flowing 9,000 bbls. of 32.3-gravity oil per day from 6,893 feet. Wells in the Gatchell area have not been given potential production tests but computations indicate that several of them are capable of flowing in excess of 15,000 bbls. per day.

No. 7-17 S.P.L. was cutting 4 per cent at last reports but this is drilling fluid which is being cleaned up by periodic flows. The well was brought in flowing through a 44/64-inch bean and showed tubing and casing pressures of 2,000 pounds each. The shut-in pressure increased to 2,150 pounds and will probably go higher after the well has cleaned itself. Inadequate trap and tankage facilities and compliance with the curtailment program indicate that the well will be permitted to produce only a few hours daily.

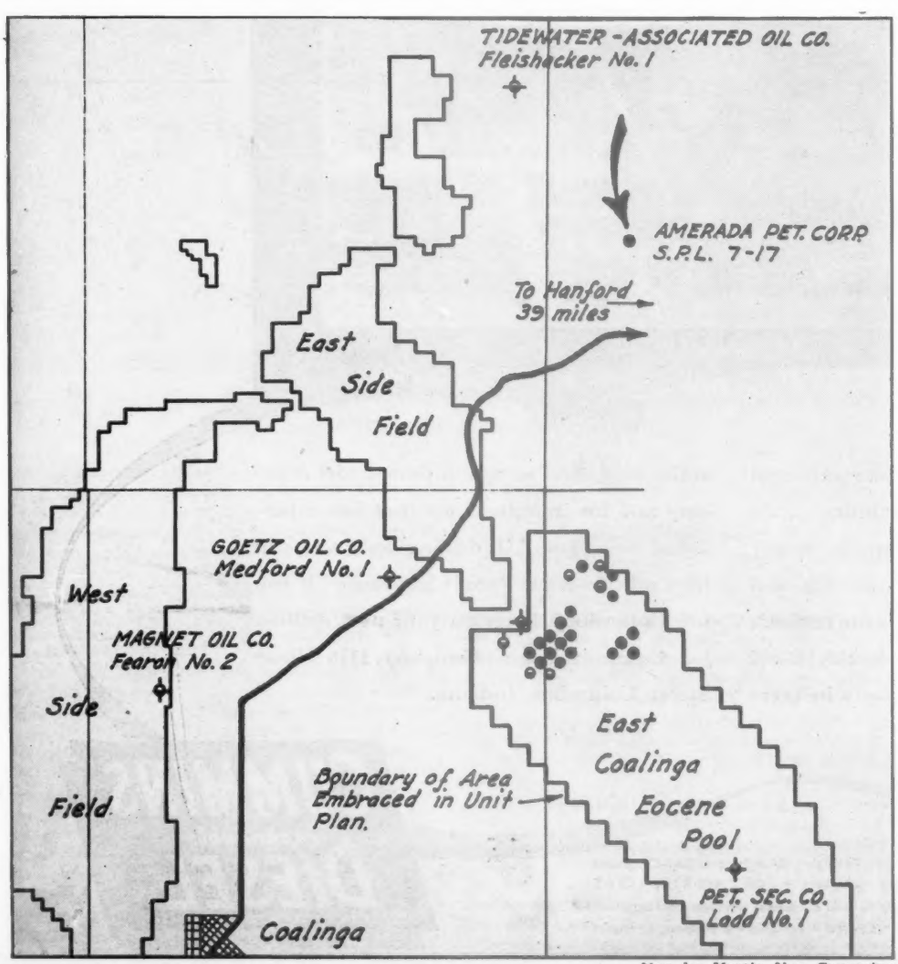
Bandini Petroleum Corp. which holds a lease on the southwest quarter of Section 18-19-16 about 1 mile west of Amerada's discovery has staked location Nos. 48 and 55 and has awarded drilling contract to the Taft Well Drilling Co. for the first well. Union Oil Co. holds a lease on the southeast 160 acres offsetting the discovery but will probably not rush development work. Union also holds 320 acres in fee south of the well. Superior, Pure, Bankline, Standard, Pacific Western, Wilshire, Richfield and the Texas companies hold varying amounts of leases some of which may be productive. The extent and trend of the structure may require several months to determine as most of the acreage is held in large blocks and operators will be able to proceed cautiously. At least five new wells are expected to be started before the close of the month. In the old West Coalinga field, Foreign Oil Co. completed No. 6 Pacific States Annex in Section 6-21-15 pumping 21 bbls. of 30.1-gravity oil cutting 25 per cent from 2,540 feet.

Canal—Greeley

Ohio Oil Co., in the Canal field of Kern County, completed No. 11-E Kern County Land in Section 14-30-25, flowing 1,570 bbls. of 39.1-gravity oil and 1,339,000 cu. ft. of gas per day from the Stevens sand with bottom of the hole at 8,300 feet. It was brought in flowing through 1-inch bean and showed a tubing pressure of 150 pounds and a casing pressure of 1,300 pounds. Top of the Stevens zone was logged at 8,225 feet and the hole was finished with a 7-inch water string landed at 8,209 feet and a 5-inch liner. In the Greeley field, Standard Oil Co. has abandoned No. 1 Elrich in Section 20-29-26 as a dry hole at 13,535 feet. This deep test wound up on gray sand having logged top of the upper Rio Bravo zone at 11,550 feet, top of the lower Rio Bravo zone at 11,570 feet and base of

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

	April 22		April 15			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil					185,791	70,180
Fuel oil	125,041	17,863	143,764	20,538	718,807	.....
Diesel and gas oil	.....	.....	.....	.....	233,051	178,662
Gasoline	148,970	21,281	.....	.....	502,966	880,094
Kerosene	.....	.....	.....	.....	122,200	132,575
Asphalt	.....	.....	65,680	9,383	140,426	144,590
Lubricants	4,013	573	.....	.....	8,183	3,009
Foreign exports—						
Crude oil	482,524	68,932	434,987	62,141	6,180,182	9,451,418
Fuel oil	188,782	26,969	165,693	23,670	3,435,191	3,066,424
Diesel and gas oil	293,526	41,932	85,533	12,219	2,277,080	1,976,907
Gasoline	300,460	42,923	119,928	17,133	3,457,768	3,433,057
Kerosene	.....	.....	55,216	7,888	854,280	618,896
Lubricants	5,513	788	.....	.....	210,743	145,340
Other finished oil	232	33	.....	.....	352	.....
Coastwise-domestic—						
Crude oil	396,421	56,632	536,214	76,602	4,016,590	3,770,698
Fuel oil	322,671	46,096	440,254	62,893	4,881,449	5,656,732
Diesel and gas oil	60,828	8,690	72,975	10,425	1,094,574	1,111,702
Gasoline	364,214	52,031	501,276	71,611	6,068,147	6,398,917
Kerosene	12,760	1,823	8,176	1,168	341,597	341,803



Map by Martin Van Couvering

Amerada Petroleum Corp. opens a pool in Fresno County about 4 miles northeast of the Gatchell pool with a well starting at 4,280 bbls. of oil and 14,200,000 feet of gas per day

the Vedder at 11,730 feet. Top of the Eocene was cored at 13,447 feet. Standard Oil Co. No. 11-16 Kern County Land in Section 20-29-26 is standing cemented after having reached the base of the Jewett zone at 11,425 feet and No. 11-17 Kern County Land in Section 18-29-26 is cemented at 11,320 feet with oil sand in the bottom of the hole.

Ventura Avenue

In the Ventura Avenue field No. 33 Edison and No. 98 Taylor of Shell Oil Co. and No. 123 Lloyd and No. 40 Ventura Land & Water of Tide Water Associated Oil Co. are nearing completion. No. 3 Hisey of Alliance Oil Co. was completed flowing 2,130 bbls. of 29.5-gravity oil cutting 5 per cent and 1,250,000 cu. ft. of gas per day from the deep 57 zone discovered by Associated Oil Co. several years ago. The California Alliance Corp. formed by the same interests controlling Alliance Oil Co. has leased a 174-acre strip along the north boundary of the McGonigle lease of Shell Oil Co. and the Hartman lease of Tide Water Associated Oil Co. and will proceed with immediate work. Tide Water Associated Oil Co. recompleted No. 105 Lloyd, flowing 330 bbls. of 29.4-gravity oil, cutting 6 per cent, and 155,000 cu. ft. of gas per day from the upper zone with bottom of the hole at 6,332 feet. British American Oil Co., which is drilling No. 7 Hartman in conjunction with Bolsa Chica Oil Co., encountered mechanical trouble at 7,899 feet and is redrilling at 6,150 feet.

Torrance

In the Torrance field, W. E. McCaslin completed No. 1 Robertson at 237th and Eshelman streets and brought it in pumping 132 bbls. of 26.8-gravity oil cutting 3 per cent from 5,167 feet after finishing the hole with a 7-inch water string landed at 4,796 feet and 392 feet of 5-inch liner including 371 feet of perforated and 4,770 feet of 2½-inch tubing.

Wilmington

In the Wilmington field of Los Angeles Basin Long Beach Oil Development Co. has derricks up for 12 wells to be drilled in the immediate future and Signal Oil & Gas Co., with four strings of tools in operation, has staked location for five additional wells to be drilled into the tideland accumulation. Additional drilling by General Petroleum Corp., Union Pacific Railroad Co. and other operators indicates that this year will see the completion of at least 50 additional wells. During the past week Union Pacific Railroad Co. completed No. 105 flowing 1,175 bbls. of clean 26.9-gravity oil and 300,000 cu. ft. of natural gas per day from the Terminal zone with bottom of the hole at 4,011 feet.

Montebello

The Texas Co. secured its first producing well in the west extension of the Montebello field when No. 5 Mulholland was completed flowing 790 bbls. of 37.5-gravity oil and 500,000 cu. ft. of gas per day from the lower member of the sixth zone and the upper member of the seventh zone. This new well was bottomed at 7,202 feet and finished with a solid string of 7-inch landed at 7,199 feet and then gun-perforated opposite the sixth and seventh zones at intervals between 6,345 feet and 7,199 feet. Vulcan Oil Co. completed No. 1 Calkins flowing 348 bbls. of 37.4-gravity oil cutting 5 per cent along with 300,000 cu. ft. of gas per day from the lower member of the sixth zone with bottom of the hole at 6,689 feet. It was finished with an 8⅝-inch water string landed at 6,633 feet and 75 feet of 5½-

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	April 22		April 15			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	185,791	70,180
Fuel oil	63,760	9,109	143,764	20,538	657,526	.....
Diesel and gas oil	.....	.....	.....	.....	163,501	.....
Gasoline	148,970	21,281	.....	.....	502,966	870,595
Kerosene	.....	.....	.....	.....	122,200	132,575
Foreign exports—						
Crude oil	482,524	68,932	133,063	19,009	4,504,208	7,635,727
Fuel oil	188,782	26,969	86,433	12,348	2,549,932	2,419,301
Diesel and gas oil	171,298	24,471	60,100	8,586	1,694,521	1,451,719
Gasoline	259,512	37,073	119,928	17,133	2,523,007	2,005,895
Kerosene	.....	.....	55,216	7,888	584,941	405,550
Lubricants	.....	.....	.....	.....	42,034	.....
Coastwise-domestic—						
Crude oil	396,421	56,632	536,214	76,602	4,016,590	3,770,698
Fuel oil	193,214	27,602	281,606	40,229	2,920,395	3,590,150
Diesel and gas oil	28,651	4,093	42,763	6,109	810,154	602,547
Gasoline	212,608	30,373	286,288	40,898	4,181,019	4,484,614
Kerosene	.....	.....	.....	.....	129,005	106,043

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	61,281	8,754	.....	.....	61,281	.....
Diesel and gas oil	.....	.....	.....	.....	69,550	178,662
Gasoline	.....	.....	.....	.....	.....	9,499
Asphalt	.....	.....	65,680	9,383	140,426	144,590
Lubricants	4,013	573	.....	.....	8,183	3,009
Foreign exports—						
Crude oil	.....	.....	301,924	43,132	1,675,974	1,815,691
Fuel oil	.....	.....	79,260	11,323	885,259	647,123
Diesel and gas oil	122,228	17,461	25,433	3,633	582,559	525,188
Gasoline	40,948	5,850	.....	.....	934,761	1,427,162
Kerosene	.....	.....	.....	.....	269,339	213,346
Lubricants	5,513	788	.....	.....	168,709	145,340
Other finished oil	232	33	.....	.....	352	.....
Coastwise-domestic—						
Fuel oil	129,457	18,494	158,648	22,664	1,961,054	2,066,582
Diesel and gas oil	32,177	4,597	30,212	4,316	284,420	509,155
Gasoline	151,606	21,658	214,988	30,713	1,887,128	1,914,303
Kerosene	12,760	1,823	8,176	1,168	212,592	235,760

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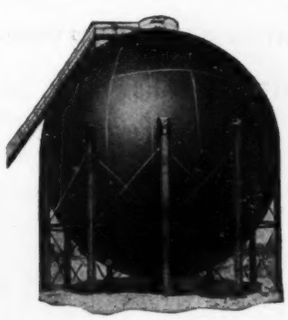

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inch liner including 56 feet of perforated and 6,563 feet of 2½-inch tubing. Traders Oil Co. has concluded a formation test on No. 1 Montebello at 6,350-6,435 feet and the well came in flowing 333 bbls. of 36.1-gravity oil cutting 4 per cent through a 52/64-inch bean.

Kern County

Tide Water Associated Oil Co. completed an excellent producing well in the North Belridge field of Kern County when No. 23-3 in Section 22-27-20 was brought in flowing 1,870 bbls. of 30.8-gravity oil and 763,000 cu. ft. of gas per day through two 96/64-inch beans from the Wagonwheel zone with bottom of the hole at 8,510 feet. This well was brought in barefoot, there being no pipe below the shoe of the 6⅝-inch water string at 8,454 feet. This company has finished rigging up No. 21 to be drilled in Section 21-27-20. Belridge Oil Co. has concluded drilling operations on No. 39 in Section 36-27-20 in oil sand at 8,205 feet but may possibly make a little more hole before placing the well on production. In the Ring area of the Mount Poso field of Kern County, Ring Oil Co. completed No. 4 Rogers-Jones pumping 385 bbls. of very clean 15.2-gravity oil per day from 1,773 feet. This well was finished with an 8⅝-inch water string landed at 1,801 feet and 40 feet of 7-inch liner including 15 feet of perforated. In the old Kern River field, D.B.K. Oil Co. completed No. 3 Kern in Section 34-28-28 pumping 15 bbls. of 14.3-gravity oil per day cutting 9 per cent from 475 feet.

Union Oil Co. has reached the critical depth in No. 1-36 Kern County Land, a wildcat in the Shafter district of Kern County at 12,954 feet, and while some oil sand has been cored the exact amount present is undetermined due to poor core recovery. Bottom of the hole is definitely below the top of the Rio Bravo zone, and the next 100 feet of the hole may decide the well's production possibilities. In the Coles Levee district of Kern County, Standard Oil Co. made a Johnston formation test at 8,735-56 feet, and the well flowed at a daily rate of 14,600,000 cu. ft. of gas and only a small amount of high-gravity condensate. Drill pipe recovery consisted of 100 feet of mud, water and 49.7-gravity oil and so the company began preparations to resume drilling.

In the Wasco field of Kern County, Standard Oil Co. found the top of the pay in No. 8-2-B Kern County Land and consequently should have it ready for a test within the week. In Solano County, Standard Oil Co. staked location for No. 1 California Packing Co., a wildcat, in Section 15-5-2, about 10 miles north of the Rio Vista gas field. The location was selected as a result of seismograph survey and production is expected to be found in the Domengine and Ione formations between 4,000 and 5,000 feet. This well is being drilled in search of commercial gas production. In the Jasmin district of Kern County, Dilamar Oil Co. has bottomed No. 3 Quinn in Section 12-25-27 in oil sand at 2,902 feet and is waiting for delivery of casing. This wildcat is one of several drilled on the Quinn Ranch during the past several years and appears to be the best as a total of 51 feet of oil sand and shale has been cored. The Vedder was logged higher up in the hole and was barren and therefore the present zone is believed to be the Walker.

Rosecrans

Superior Oil Co. recompleted No. 10 Maxwell in the Rosecrans field of Los Angeles Basin and returned it to production, flowing 171 bbls. of 31.9-gravity oil cutting 2 per cent from the O'Dea zone with bottom of the hole at 7,683 feet. It was recompleted flowing through a 24/64-inch bean and shows a tubing pressure of 150 pounds and a casing pressure of 650 pounds. No. 10 Maxwell was deepened from 7,630 feet and finished with 61 feet of 4¾-inch liner including 14 feet of perforated and 7,499 feet of 2½-inch tubing with packer. Wilshire Oil Co. after a delay of several months has finally gotten under way on No. 1 Leitch, an outpost in the southern end of the field, and is making normal progress. With the conclusion of drilling in the Torrance field, one or more of these operators may return to the Athens section of the Rosecrans field and start a deep test. No work has been done in that section for several years but the fact remains that despite the failure to develop commercial production a number of years ago, E. J. Miley drilled his No. 6 Athens to a depth of 7,581 feet and secured some small production. This is just about the same depth at which the O'Dea zone is found in the Rosecrans section of the field and therefore a deep hole appears to be justified for the Athens section. When Miley drilled his well the technique of drilling was not as far developed as at present. The Miley well was not surveyed and it is conjectural where it was bottomed. No. 6 Athens was for a long time the deepest well in the Rosecrans field.

In the Potrero field of Los Angeles Basin, Basin Oil Co. completed No. 4 Inglewood flowing 370 bbls. of clean 43.5-gravity oil per day through a 28/64-inch bean from 6,082 feet. This well was finished with a 6⅝-inch blank liner landed on bottom and then gun perforated at 5,750-5,800 feet and at 6,050-82 feet. Officials of this company have done excellent work in developing commercial production from these thin lenses of oil sand. This has been made possible by careful selection of the productive points and then producing them by perforating the pipe after it has been landed.

Standard Oil Co. and Union Oil Co. are showing some anxiety over their respective wells in the Aliso Canyon field of Los Angeles County following their failure to correlate as closely as desired with Tide Water Associated Oil Co.'s discovery well, No. 1 Porter. The status of each should be determined within the next two weeks as both are below the completion depth of the discovery well. In the meantime, Tide Water Associated Oil Co. is making up for lost time by enhancing its projected development program. The company either has rigs already up or in course of construction for six additional wells to be drilled on the Porter and Fernando leases. In the Dominguez field, Union and Shell are watching work on No. 11 Carson which is being carried down into the deep zone because if commercial production is developed it will open several additional locations for work.

Russellville Gas Contract

Kentucky Natural Gas Corp. has announced cancellation of a contract with producers and land owners in the Russellville (Ill.) gas field for the output of wells with a potential daily production of 180,000,000 cu. ft.

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Rocky Mountain Area

By
T. R. INGRAM

Lance Creek Leo-Sand Well Rated at Over 10,000 Bbls.

DENVER, Colo., Apr. 30.—Big wells were the outstanding feature of the week in the northern Rocky Mountain area. The Minnelusa Oil Corp. No. 3 H. & M.-5, in Lance Creek, flowed 480 bbls. in one hour under a back pressure of 440 pounds on the casing, and is estimated at 10,000 to 12,000 bbls. capacity. The Kevin-Sunburst field had a surprise in the Big West Oil Co. No. 8 Dahlquist, which was pinched down to 500 bbls. per day, with capacity undetermined. It was dry in the objective horizon and shooting and acidization turned it into the biggest producer in recent years. The Continental Oil Co. has an interest in No. 38 Royalite, across the line in Turner Valley, which was completed for 3,600 bbls. and given largest allowable of any well in the field. Cut Bank had one completion, better than the average, in Tarrant-Wiley No. 3 Jones, which swabbed 225 bbls. New operations included two locations in Lance Creek by the Continental Oil Co.; a wildcat to be drilled in Meagher County, Montana; two locations in Cut Bank, and two in Kevin-Sunburst.

NEW MEXICO

The Three-County Corner area, including adjacent sections of Roosevelt, Chaves and Lea counties, is a wildcat area in southeastern New Mexico that holds considerable interest. Several independents and big operators, including Pure Oil Co., Magnolia Petroleum Co., Skelly Oil Co., Phillips Petroleum Co., Texas Co., El Paso Natural Gas Co., and J. C. Maxwell, have leases in the area. A block of some 20,000 acres of federal lands was assembled in 133 by R. M. Baker.

Western Minerals, Inc., (Ted Weiner, operator) No. 1 Hiram Dow, C SW NW Section 27-10-30, wildcat in Chaves County, 42 miles east of Roswell, had erected derrick and was preparing to spud with cable tools.

R. M. Baker No. 1 Baker, Baker permit, 330 feet from N and W Section 19-10-30, was building road and digging cellar and pits. This wildcat also will be drilled with cable tools.

Nay Hightower No. 1 Billingslea, C SW NE Section 28-11-30, was reported to have had 90 feet of free oil showing in the hole at 3,290 feet, was deepened and found sufficient porosity to justify acid treatment and operators were preparing to acidize. This wildcat is south of the Baker test and southwest of the Weiner well, forming a triangle within the area.

Seventeen wells were completed the past week in Lea County, including two failures, and three completions in Eddy County were recorded. The following Lea County wells were completed:

Fred Turner, Jr., No. 1 Lea County State Bank, a wildcat in C SW SW Section 30-14s-38e, was dry and abandoned at 5,512 feet, total depth, in lime. Core samples from 5,507-12 feet showed hard black lime.

Magnolia Petroleum Co. No. 28 State-Bridges, C NW NW Section 26-17s-34e, Vacuum field, found pay from 4,578-4,640 feet, total depth 4,740 feet, and after acidizing flowed 68 bbls. of oil in six hours.

Texas Co. No. 2-T State, C SW SE Section 34-17s-34e, flowed 170 bbls. of oil in four hours through choke on 2-inch tubing set at 4,650 feet. Pay was found at 4,455 feet, total depth 4,685 feet.

Same company's No. 2-S State, C SW SW Section 35-17s-34e, flowed 196 bbls. of oil in six hours with 581,000 cu. ft. of gas daily. Pay was topped at 4,450 feet and the well was bottomed at 4,675 feet.

Humble Oil & Refining Co. No. 4-K State, C NE SE Section 32-17s-35e, had pay at 4,194 feet, total depth 4,670 feet, and flowed 38 bbls. of oil hourly for eight hours through choke on tubing set at 4,630 feet.

Phillips Petroleum Co. No. 27 Santa Fe, C SW NE Section 34-17s-35e, total depth 4,609 feet, found pay at 4,250 feet. The well flowed 12 bbls. of oil in 10 hours, was acidized and made potential of 250 bbls. in 12 hours. Gas gauged 650,000 cu. ft. daily.

Texas Co. No. 1-X State, C NE NE Section 3-18-34, flowed 96 bbls. of oil in six hours, naturally, from pay found at 4,425 feet. Total depth was 4,700 feet.

Continental Oil Co. No. 5 Britt B-15, C W half NE SW Section 15-20s-37e, Monument field, found pay from 3,843-58 feet; total depth at 3,858 feet, and after setting 2-inch tubing at 3,821 feet flowed 42 bbls. of 32-gravity oil hourly for three hours. Gas gauged 824,000 cu. ft. daily.

The Texas Co. No. 17 Lieu Lands, NW NW SW Section 19-20s-37e, Eunice field, flowed 170 bbls. of oil per day from pay found at 3,830 feet. Total depth was 3,874 feet.

Danglade & Clower No. 1 Corrigan, C NE SE Section 33-21s-37e, Hardy area, topped pay at 3,714 feet and after perforating at 3,720 feet flowed 54 bbls. of oil naturally. After treating the well flowed 162 bbls. daily, gas gauged at 500,000 cu. ft.

Continental Oil Co. No. 5 State J-2, C SE SE Section 2-22s-36e, South Eunice, flowed 40 bbls. of oil an hour for two hours from pay found at 3,742 feet. Total depth was 3,791 feet. Gas was estimated at 645,000 cu. ft. daily.

Skelly Oil Co. No. 7 Baker, C S half NW NE Section 27-22s-37e, Penrose area, topped pay at 3,535 feet, total depth 3,655 feet, set 2-inch tubing at 3,653 feet and flowed 131 bbls. of oil in 19 hours.

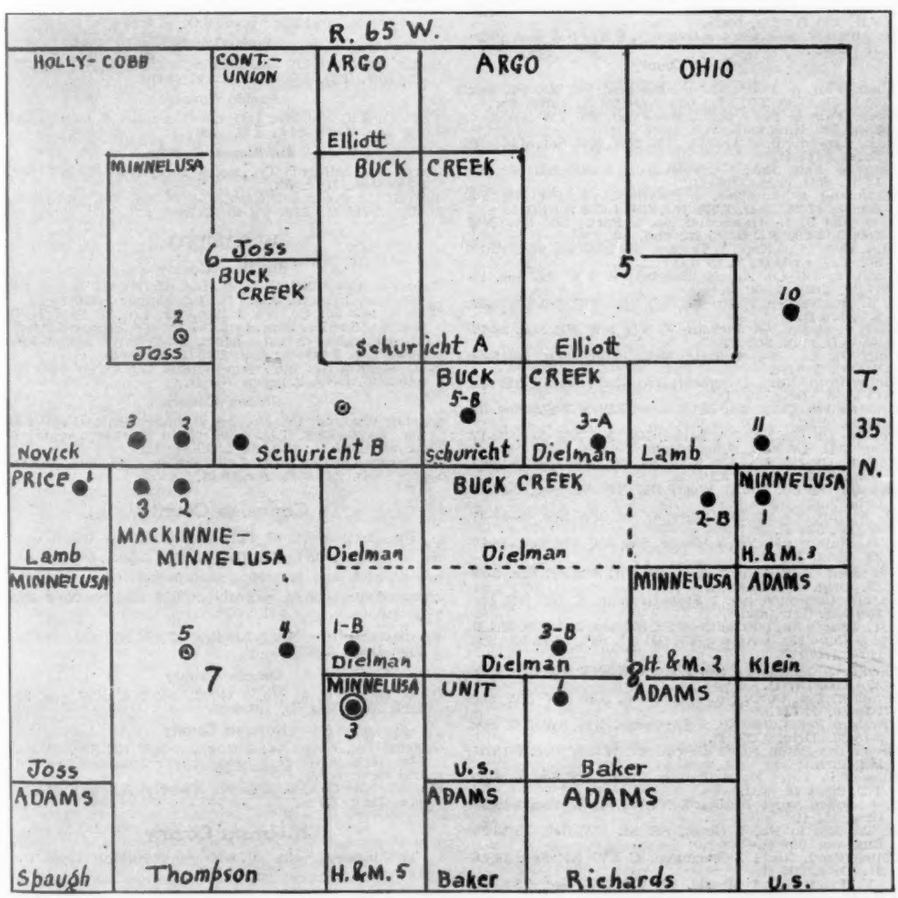
Olean Petroleum Corp. No. 2 Farrell, SW SE SE Section 22-22s-37e, total depth at 3,757 feet, plugged back to 3,655 feet and was dry and abandoned after pumping 3 bbls. of oil per day for three days with a small amount of water.

Great Western Production No. 2-B Leonard, C NW NW Section 32-23s-37e, Skelly pool, had pay at 3,495 feet, total depth 3,624 feet, and was plugged back to 3,579 feet. After shooting at 3,510-79 feet the well flowed 97 bbls. of oil daily.

Shasta Oil No. 1 Woolworth, NE NE NW Section 28-24s-37e, Mattix area, was recompleted at total depth of 3,601 feet in sand and flowed 127 bbls. of oil in 24 hours.

Weir Drilling Co. No. 3 Woolworth, NE SW SW Section 28-24s-37e, was bottomed in sand and lime at 3,588 feet, had pay at 3,450 feet, and flowed 125 bbls. of oil naturally in 24 hours.

Phillips and Pure No. 5 Woolworth, C SW SE Section 33-24s-37e, flowed 150 bbls. of oil in six hours through open 2-inch tubing set at 3,539 feet. Top of



Minnelusa Oil Corp. No. 3 H. & M.-5, in Lance Creek, is estimated at 10,000 to 12,000 bbls. per day, making it largest green-oil producer completed in Wyoming since the days of Salt Creek. Map shows only wells completed in the Leo sand in the southern part of the field, all of which are on the edge or outside of the productive Sundance sand area

pay was 3,465 feet, total depth 3,539 feet. The well was completed naturally and gauged 762,000 cu. ft. of gas daily.

The Eddy County completions were:

W. H. Berry No. 1 Berry, NE NE NE Section 24-17s-27e, was completed after pumping 3 bbls. of oil daily, cutting 50 per cent water. Pay sand was found at 534 feet, total depth 580 feet in sand.

Welch & Welch No. 1 State, NE NE SE Section 20-17-28, pumped 20 bbls. of oil and 5 bbls. of water daily from pay topped at 1,950 feet. Total depth was 1,970 feet.

C. S. Powell No. 1 Smith, NW NW NE Section 6-17s-29e, total depth at 2,845 feet, was plugged back to 2,500 feet and completed for an estimated 750,000 cu. ft. daily. Gas sand was found at 2,431 feet.

Lea County

Carper-Taylor No. 1 Taylor (wildcat), SW SW SW Sec. 30-16-32. T.D. 4,097 ft.; 3,000 ft. O.I.H.; shot and C.O.
Magnolia Pet. Co. No. 1-Q State, C SW NE Sec. 36-16-36. T.D. 3,542 ft.; S.D. rprs.
Magnolia Pet. Co. No. 1-S State, C NE SW Sec. 34-16-34. Sur. csg. 334 ft.
Repollo Oil Co. No. 2 State, Lse. 182, C S½ NE SW Sec. 31-16-37. T.D. 4,108 ft.; blowing est. 50,000,000 cu. ft.
Skelly Oil Co. No. 1-O State, C E½ SW SW Sec. 31-16-37. Drlg. 1,540 ft.
Carper Drlg. No. 1 Simon, C NE NE Sec. 29-17-32. Drlg. 2,778 ft.
Cities Service No. 2-K State, C SE NE Sec. 27-17-35. W.O.C. 4,200 ft.
Continental Oil Co. No. 1-A Sanderson B-14, C N½ NW NW Sec. 14-20-36. W.O.C. 1,443 ft.
Continental Oil Co. No. 6 State H-35, C NE NW Sec. 35-17-34. Drlg. 3,747 ft.
Drlg. & Exploration No. 1-M State, C SW SE Sec. 29-17-35. Drlg. 4,230 ft.
Drlg. & Exploration No. 1-W State, NW NW SE Sec. 26-17-35. W.O.C. 4,260 ft.
Humble O. & R. Co. No. 5-K State, C SE NE Sec. 32-17-35. Drlg. 3,041 ft.
Magnolia Pet. Co. No. 2-P State, C SE SE Sec. 22-17-35. T.D. 4,640 ft.; retreated; 2,500 ft. O.I.H.
Magnolia Pet. Co. No. 1-R State, C NW SE Sec. 1-17-36. Drlg. 2,685 ft.
Magnolia Pet. Co. No. 1 Selby, C NW NE Sec. 7-17-37. Drlg. 3,945 ft.
Magnolia Pet. Co. No. 27 State-Bridges, C SE NE Sec. 26-17-34. T.D. 4,727 ft.; blew swb. out and F. 45 B.O. and died; S.D. rprs.
Magnolia Pet. Co. No. 30 State-Bridges, C SW NE Sec. 26-17-34. Drlg. 4,882 ft.; S.O. 4,381 ft.; 4,431 ft.
Magnolia Pet. Co. No. 31 State-Bridges, C NE NW Sec. 23-17-34. Rng. 10-in. 824 ft.
Maljamar O. & G. Co. No. 2-B Baish, C NE NE Sec. 27-17-32. Drlg. 3,490 ft.
Maljamar O. & G. Co. No. 2 Mitchell, SW SE SW Sec. 5-17-32. Drlg. 3,035 ft.
Ohio Oil Co. No. 2 State-Warn, C SE NW Sec. 33-17-35. Drlg. 1,742 ft.
Phillips Pet. Co. No. 4 Hale, C SE SW Sec. 35-17-34. Loc.
Phillips Pet. Co. No. 5 Hale, C NW SE Sec. 35-17-34. Drlg. 3,373 ft.
Phillips Pet. Co. No. 12 Santa Fe, C NE SW Sec. 28-17-35. T.D. 4,700 ft.; tstg.
Phillips Pet. Co. No. 15 Santa Fe, C NE NE Sec. 28-17-35. T.D. 4,700 ft.; S.D.O.
Phillips Pet. Co. No. 29 Santa Fe, C SW NW Sec. 33-17-35. Drlg. 3,380 ft.
Shell Oil Co. No. 1-T State, C NE SE Sec. 33-17-35. Drlg. 2,972 ft.
Shell Oil Co. No. 1-V State, C NE NE SE Sec. 21-17-35. Rng. tbg. 4,680 ft.
Shell Oil Co. No. 2-N State, C SE NE Sec. 28-17-35. Drlg. 3,775 ft.
Standard Oil of Texas No. 3 State, Lse. 5, C SW NW Sec. 27-17-35. W.O.C. 1,645 ft.
Texas Co. No. 3-N State, C SW NW Sec. 30-17-35. T.D. 4,200 ft.; W.O.C.
Twin Oil Corp. No. 1-D State, C SW NE Sec. 30-17-35. T.D. 4,700 ft.; S.D.O.
United Producers No. 1 Caylor, NE NE NW Sec. 6-17-37. W.O.C. 2,952 ft.
Fullerton Oil Co. No. 1-A Walker, C SW NW Sec. 18-18-32. T.D. 4,225 ft.; S.D.O.
Phillips Pet. Co. No. 16 Santa Fe, C NW SW Sec. 5-18-35. T.D. 5,030 ft.; P.B. 4,157 ft.; acid.; pull tbg. to bail.
Texas Co. No. 1-Z State, C NW NW Sec. 2-18-34. Drlg. 835 ft.
P. B. English No. 1 Miller, C NE SE Sec. 18-19-32 (wildcat). T.D. 3,077 ft.; W.O. csg.
Continental Oil Co. No. 5 Sanderson B-14, NE NW SW Section 14-20-36. Drlg.
Stanolind O. & G. Co. No. 4-B Gilluby, NW NW NW Sec. 22-20-37. T.D. 3,310 ft.; P.B. 2,403 ft.; D.D. to 3,000 ft.; re-P.B. to 2,000 ft.; W.O.C.
Texas Co. No. 18 Lieu Lands, C NE NW Sec. 19-20-37. Drlg. 420 ft.
Aloco Oil Co. No. 2-B Carson, C NW SE Sec. 28-21-37. Drlg. 600 ft.
Danglade & Clower No. 2 Owen, C W½ NW SW Sec. 34-21-37. R.U. mch.
Drlg. & Exploration Co. No. 1-D Shell, SW SW SE Sec. 36-21-36. W.O.C. 1,161 ft.
Gulf Oil Corp. No. 1-C Carson, C NE NE Sec. 33-21-37. T.D. 3,625 ft.; W.O.C.
Gulf Oil Corp. No. 2-B Mattern, C SE NE Sec. 31-21-37. T.D. 3,806 ft.; P. 82 B.O. and 82 B.W. in 10 hrs.
Wilson Oil Co. No. 1 Shell-State, C NE SW Sec. 7-21-35. Loc.
J. C. Clower No. 1 Christmas, SE SE SW Sec. 28-22-37. Drlg. 2,230 ft.
Continental Oil Co. No. 1-A Elliott, C SE SE Sec. 21-22-37. T.D. 3,648 ft.; S. 45 B.O. in 24 hrs.
Continental Oil Co. No. 6 State J-2, C SW SE Sec. 2-22-36. W.O.C. 3,711 ft.
Gulf Oil Corp. No. 4-E Mattern, C SW SW Sec. 1-22-36. Drlg. 3,524 ft.
Lem Peters No. 2 Call, C W half NW SW Sec. 26-22-37. Drlg. 1,340 ft.
Lem Peters No. 3 T. O. May, SW SW NE Sec. 34-22-37. C.&P.
Repollo Oil Co. No. 1-D State, Lse. 157, NW NW SW Sec. 12-22-36. W.O.C. 3,690 ft.
Shell Pet. Corp. No. 1 T. O. May, NW NW NW Sec. 35-22-37. T.D. 3,422 ft.; cir. oil.
Skelly Oil Co. No. 2-A Baker, SW SW NW Sec. 26-22-37. Drlg. 1,495 ft.
Skelly Oil Co. No. 8 Baker, SW NE NE Sec. 27-22-37. Drlg. 455 ft.
Texas Co. No. 2-B Fally, C SE SW Sec. 8-22-37. T.D. 3,720 ft.; P.B. 3,694 ft.; F. 11 B.F. in 16 hrs.
Texas Pacific C. & O. No. 15-A State, C N¼ SE NW Sec. 11-22-36. T.D. 3,839 ft.; R.U.S.T.
Continental Oil Co. No. 1 Lynn A-28, C SW NE Sec. 28-23-36. W.O.C. 3,112 ft.
Walter Donnelly No. 1 Davis, C SE NW Sec. 33-23-37. T.D. 3,600 ft.; tstg.
Skelly Oil Co. No. 4 Simms, SW NE SE Sec. 3-23-37. Drlg. 342 ft.
Anderson & Prichard No. 1-A State, C SW NW Sec. 32-24-37. Drlg. 3,000 ft.
Amerada Oil Co. No. 2 Johnson, C SW SW Sec. 27-24-37. Drlg. 2,125 ft.
Continental Oil Co. No. 3 Jack B-27, C NW SE Sec. 27-24-37. R.U.R.
Humble O. & R. Co. No. 1-L State, C NE SE Sec. 32-24-37. T.D. 3,560 ft.; S.&F. 226 B.O. in 20 hrs.
Humble O. & R. No. 2-L State, C SE NE Sec. 32-24-37. C.&P.
Kan-Mex Oil Co. No. 3 Vaughn, C SW NW Sec. 3-24-36. T.D. 3,620 ft.; rng. csg.
Montecito Corp. No. 2 Woolworth, NE SW SW Sec. 33-24-37. Loc.
North Shore Oil Corp. No. 3 Woolworth, SW SW NW Sec. 33-24-37. T.D. 3,576 ft.; C.O.
North Shore Oil Corp. No. 4 Woolworth, SE NW NW Sec. 33-24-37. Drlg. 175 ft.
Parker Drlg. Co. No. 3 Erwin, C W½ NE SW Sec. 35-24-37. T.D. 3,460 ft.; F. 10 B.O. in 8 hrs.; est. 3,000,000 cu. ft. gas.
Phillips and Pure No. 7 Woolworth, C SW NE Sec. 33-24-37. Drlg. 165 ft.
Repollo Oil Co. No. 2-C State, Lse. 157, NE SE SE Sec. 32-24-37. Drlg. 3,510 ft.
Repollo Oil Co. No. 4-B Whitten, NE NE SE Sec. 4-24-36. T.D. 3,709 ft.; fsg.
Schermerhorn Oil Co. No 5 Woolworth, NW SW NE Sec. 28-24-37. T.D. 3,546 ft.; F. 75 B.O.P.D.
Schermerhorn Oil Co. No. 6 Woolworth, C SW SE Sec. 28-24-37. T.D. 3,550 ft., sd.; unloading hole.
Anderson & Prichard No. 6 Wells, C SW NW Sec. 5-25-37. R.U.R.
Anderson & Prichard No. 7 Wells, C NW SW Sec. 4-25-37. Drlg. 243 ft.
Anderson & Prichard No. 1 Woolworth, NW NE NE Sec. 17-25-37. T.D. 3,454 ft.; perf.
Cities Service No. 2 Dabbs, SW SW NW Sec. 23-25-37. Drlg. 2,307 ft.
Italo Pet. Corp. No. 1 Carlson, SW NE NW Sec. 26-25-37. T.D. 3,341 ft.; F. 6 B.O. in 24 hours.
Italo Pet. Corp. No. 3 Carlson B-27, NE SE SE Sec. 27-25-37. Abd. loc.
Richmond Drlg. No. 3-A State, C SE SW Sec. 2-25-37. Drlg. 1,025 ft.
Sam Weiner No. 3 Smith, CN½ NE SE Sec. 4-25-37. T.D. 3,506 ft.; S.I.; moved off.
Weiner et al No. 4 Smith, NW SE SE Sec. 4-25-37. T.D. 485 ft.; fsg. tools.
Stanolind O. & G. No. 1-B Gregory, C SW NW Sec. 15-26-37. C.&P.

Eddy County

Allen, Fair & Pope No. 1 Snowden, SE NE SE Sec. 36-17-29. T.D. 2,775 ft.; pay 2,740-60 ft.; cmtg. csg.
Allen, Fair & Pope No. 2 Snowden, SE SW SW Sec. 36-17-29. R.U. mch.
B. L. Arnold No. 1 Arnold, NW NW NW Sec. 34-17-30. Drlg. 2,415 ft.
Aston & Fair, Inc., No. 1 Hudson, C NE NE Sec. 18-17-31. S.D. rprs. 3,299 ft.
Hammond & Sons No. 1 Ployhar-State, SW SW SE Sec. 16-17-28. T.D. 1,971 ft.; P.B. 1,825 ft.; S.I.
J. O. and J. H. Hammond No. 1 Paris, NE NW NW Sec. 5-17-29. S.D.O. 25 ft.; abd.
Flint Prod. Co. No. 1-L Dexter, SE NW SE Sec. 15-17-30. T.D. 4,100 ft.; S. 15 B.O.P.D.
Grayberg Oil Co. No. 12 Burch, NW NW SE Sec. 19-17-30. Drlg. 1,900 ft.
J. E. Hughes No. 2 Brooks, NE NW NW Sec. 19-17-28. S.D. 175 ft.
Nash et al No. 9-A Jackson, C N½ NW NE Sec. 24-17-30. S.D. rprs. 865 ft.
Ohio Oil Co. No. 4 State McCallister, Sec. 25-17-34. W.O.C. 510 ft.
Plains Prod. No. 1 Daugherty (wildcat), SE SE SE Sec. 11-17-27. Drlg. 285 ft.
Premier Pet. Corp. No. 1-F Beeson, SW NW SW Sec. 31-17-30. Spd.
Repollo Oil Co. No. 5-A Parke, NW NE NW Sec. 22-17-30. T.D. 3,413 ft.; F. by heads.
Repollo Oil Co. No. 4-A Keel, SE NE SW Sec. 7-17-31. Drlg. 3,242 ft.; S.O. 3,192 ft.
Repollo Oil Co. No. 3 West, NE NE NE Sec. 3-17-31. Drlg. 2,965 ft.
W. K. Royalty No. 3-B State, C NE NW Sec. 16-17-31. W.O.C. 625 ft.
J. H. Steinberger No. 2 Hastie, SW SW SW Sec. 18-17-28. Drlg. 367 ft.
Adkinson Oil Co. No. 1 Brainard, SE SW SE Sec. 5-18-27. Drlg. 1,913 ft.
Barney Cockburn No. 1 State-Graham, C NE NE Sec. 16-18-31. Loc. abd.
L. E. Elliott No. 1 Elliott, SE SE SE Sec. 24-18-29. M.I.M.
Etz & Cone No. 1 Nelson, SE SE NE Sec. 10-18-30. S.D. rprs. 1,250 ft.
Farmer & Tallmadge No. 1 Hubbell, NE SW Sec. 4-18-25. T.D. 107 ft.
Franklin Pet. Corp. No. 1 Canfield, NW NW NW Sec. 7-18-30. M.I.M.
Franklin Pet. Corp. No. 1 Cappedge, NW SW NW Sec. 5-18-30. Drlg. 2,265 ft.
Green Bay-Paton No. 1 Erwin, C SW SW Sec. 9-18-31. M.I. mch.
Harvey E. Yates No. 1 Travis, NE SE SE Sec. 6-18-29. T.D. 2,606 ft.; C.O.
C. L. Jones No. 1 Brainard, NW SW NW Sec. 1-18-27. Drlg. 381 ft.
H. W. Martin No. 1 Gates, SE SE SW Sec. 15-18-30. Rng. csg. 606 ft.
Plains Prod. No. 1 Swearingen, C NW NE Sec. 14-18-31. Drlg. 865 ft.
G. V. Price No. 2 Massie, SE SE NW Sec. 22-18-29. C.&P.
Martin Yates No. 1 Saunders, NE NE NE Sec. 12-18-29. Drlg. 2,345 ft.
Carper Drlg. Co. No. 1 Quillen, C NW NE Sec. 12-19-31. S.D.O. 2,765 ft.
Geo. E. Robb No. 1 Vandagriff, SW NE Sec. 6-19-31. T.D. 850 ft.; T.A.
Rhodes Drlg. No. 2 Swearingen, C NE NE Sec. 14-18-31. Drlg.
Texwell Corp. No. 1 Sullivan, C SE SW Sec. 23-18-31. M.I.M.
R. C. Underwood No. 1 Quillen-Bruce, NE NE SE Sec. 4-19-31. T.D. 3,655 ft.; fsg. bit.
Martin Yates, Jr., No. 1 Bowers, SW SE SE Sec. 31-19-27. T.D. 1,180 ft.; est. 25-40 B.O.P.D.; tstg.
Trojan Oil Co. No. 1 Grant, SW SW NE Sec. 33-20s-25e. Drlg. 645 ft.
C. F. Ingram No. 1 Page, NE NE SW Sec. 15-21-28. T.D. 2,978 ft.; S.D.O.
Barnett Oil Dev. Co. No. 1 King, C NW SE Sec. 23-26-30. Drlg. 3,745 ft.

Chaves County

Mac T. Anderson No. 1 Warnock, C SW SE Sec. 17-15-27. T.D. 997 ft.; S.D. rprs.
Comanche Drlg. No. 1 Campbell, NE NE NW Sec. 15-11-26. T.D. 530 ft., sd.
Nay Hightower No. 1 Billingslea, C SW NE Sec. 28-11-30. T.D. 3,445 ft.; to P.B.
New, Russell & Wood No. 1 Sterrett (wildcat), NW SE NW Sec. 29-11-25. T.D. 560 ft.; S.D. rprs.
Tarkenton Bros. No. 1 Peters, SE SE NW Sec. 33-11-25. S.D. rprs. 810 ft.
Western Minerals, Inc., No. 1 Dow (wildcat), C SW NW Sec. 27-10-30. Drk.

De Baca County

N. E. Woods No. 1 Jones, C NE SW Sec. 17-4n-20. T.D. 620 ft.; S.D. rprs.
James D. Ward No. 1 Summers, SE NE SW Sec. 15-4n-24e. T.D. 680 ft.; S.D.O.

Luna County

O. D. Berry No. 1 Berry, SE SE SW Sec. 33-22s-10w. Drlg. 300 ft.

Roosevelt County

Shell Oil Co. No. 1 Harwood, C S½ SE SE Sec. 27-7s-35e. Drlg. 7,956 ft.

NORTHWEST NEW MEXICO

San Juan County

Al Greer No. 2 Thompson, SW SE SW Sec. 10-30n-11w. Drlg. 1,055 ft.
Continental Oil Co. No. 89 Rattlesnake, SE NE NE Sec. 2-29n-19w. Drlg. 783 ft.
Geo. Goodrun No. 1, NE NW NW Sec. 16-30n-11w. Drlg. 600 ft.; S. sour gas.

Torrance County

Drice Co. No. 1 Garland, NE SE NE Sec. 32-7n-7e. Drlg. 1,802 ft.

COLORADO

Fremont County

Waterville Oil Co. No. 1 Persons, CWL NE NE Sec. 17-18s-69w. Drlg. 90 ft.; slowed down by heavy wtr.
Isadore Spangler No. 1 St. Marys, SE SE SE Sec. 2-19s-70w. T.D. 2,240 ft.; tstg.

Moffat County

MacKinnie Oil & Drlg. Co. No. 1 Coles, SW SW SE Sec. 1-3n-92w. T.D. 3,295 ft.; rmg. from 3,250 ft. to set 6¼-in. on bttm.; good S.O. at 3,254 ft.

Park County

South Park Oil Co. No. 1 Leman, NE NE SE Sec. 34-11s-75w. T.D. 6,933 ft.; cmtg. caves.

Pueblo County

Eden O. & G. Co. No. 1 Horse Creek Ld. & Cattle, SW SE Sec. 29-19s-64w. S.D. 2,064 ft.

Rio Blanco County

Texas Co.-California Co. No. 2 Unit, NW SE SW Sec. 27-3n-94w. Rng. dk.
Buford Oil Co. No. 1 Govt., C SW SW Sec. 16-1n-91w. T.D. 3,645 ft.; M.I. 6¼-in. to res.

WYOMING

Big Horn County

Yale Pet. Corp. No. 2 Yates, Lot 57 (NW SW) Sec. 34-56n-97w. Drlg. L. 3,225 ft.; top Embar 3,210 ft.
Mule Creek Oil Co. No. 1 Sessions, Lot 53 (NW NW) Sec. 34-56n-97w. Drlg. L. 3,387 ft.; top Embar 3,309 ft.
Libby-Keoughan No. 1 Sheets, SE NE SE Sec. 9-55n-96w. T.D. 3,440 ft.; C.O. 200 ft. off bttm.
A. L. Rankin No. 1 Karjala-Rankin, C SW NW Sec. 10-54n-94w. Drlg. Amsden 755 ft.

Carbon County

Sinclair-Wyo. Oil Co. No. 2-A Mahoney Unit, C SW NE Sec. 34-26n-88w. T.D. 4,507 ft. in Tensleep; cmtd. 7-in. at 4,288 ft.; tbg. at 4,505 ft.; C.O.
Producers Oil Co. No. 1 Lake Valley, CNL Sec. 14-20n-88w. S.D. 2,016 ft. for 10-in.

Converse County

Dr. Berry Cerf, of Portland, Ore., has taken over No. 2 Gaspar, CNL NW SW Section 25-32n-69w, Shawnee district, and is coring at 680 feet. Operation was reported abandoned recently at 670 feet by New Era Fuel Co.

Wyshawn Oil Co. No. 2 Lindley, C SW SW Sec. 35-32n-69w. Drlg. 2,525 ft.

Lincoln County

H. C. Harris et al No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. L. 1,630 ft.

Natrona County

General Pet. Corp. No. 1 Govt., C NW SE Sec. 21-35n-77w. Drlg. 8,379 ft. in base upper Sundance; sd. hd. and tight; S.S.O.
Summitt Oil Co. No. 2 Govt., NW NE NE Sec. 21-33n-80w. Drlg. 83 ft.

Niobrara County

The biggest light oil well in Wyoming since the days of Salt Creek, 20 years ago, was completed in Lance Creek the past week in the Minnelusa Oil Corp. No. 3 H. & M.-5, NW NE SE Section 7-35n-65w, and the first completion by that company since R. S. Shannon, formerly head of the production department of the Continental Oil Co. for this district, was elected president and took charge of operations. It flowed 480

bbls. in one hour through the casing with a back pressure on the casing of 440 pounds. This did not show the full capacity of the well, however, as indicated by the heavy back pressure. The well had been equipped with a 2-inch christmas tree in anticipation of an average well of 1,500 to 1,800 bbls., and this was inadequate to take care of a flow at full capacity. The tanks soon were filled and the well was shut in. It is estimated good for 10,000 to 12,000 bbls. per day. It kicked off without swabbing and showed no water.

It was completed at 5,548 feet with the 7-inch cemented at 5486 feet. The Leo pay was at 5,490-5,548 feet. The location is an outpost well on the south side of the pool and a south offset to the Continental Oil Co. No. 1-B Dielman, which was completed late in 1937 and made 600 bbls. in six hours, open flow. The well had 58 feet of saturated sand, which is more than the average saturation in the second Wall Creek, the big producing horizon in Salt Creek. The completion indicates that the axis of the structure on the Leo sand swings out to the south and southwest and may be productive for a considerable distance.

The Ohio Oil Co. has a near completion in the Sundance in its No. 12 Carrie Putnam, NW SW NW Section 4-35n-65w, an inside location. It was drilled to 4,095 feet and had the top of saturation at 4,085 feet. It started off flowing and swabbing 126 bbls. per day, but at last report had increased to 200 bbls. in daylight hours.

Two new locations were released, both by the Continental Oil Co. Its No. 4 Apex-O.P.C.-4 is a Leo sand location in the SE SE NW Section 35-36n-65w, but will be drilled to the Sundance. However, if it is a failure in that horizon it will be carried down to the Leo sand. It is a northwest offset to the Ohio Oil Co. No. 1 Leo-7, which was a small well in the Leo, but which was plugged back recently and completed as a good producer in the Sundance. It is on the eastern side of the field and several Leo sand wells immediately to the west had no Sundance sand.

The other Continental location is its No. 9 Otto Rohlff, SE NE SE Section 31-36n-65w, an outside location on the northwest and a west offset to its No. 7 Otto Rohlff, a Sundance sand well.

Continental Oil Co. No. 4 Apex-O.P.C.-4, SE SE NW Sec. 35-36n-65w. C.&P.; (first report).
Continental Oil Co. No. 9 Rohlff, SE NE SE Sec. 31-36n-65w. C.&P.; (first report).
Continental Oil Co. No. 15 Tom Bell Cattle, C SW SW Sec. 34-36n-65w. R.U.R.
Ohio Oil Co. No. 11 Putnam, SE SE SW Sec. 33-36n-65w. Rig; M.I.M.
Continental Oil Co.-Buck Creek Oil Co. No. 8-B Schuricht, SW NW SE Sec. 6-35n-65w. Drlg. sh. 1,295 ft.; 13⅜-in. 325 ft.
Ohio Oil Co. No. 12 Carrie Putnam, NW SW NW Sec. 4-35n-65w. T.D. 4,095 ft. in basal Sundance; tstg.
J. E. Manning No. 1 Hewitt-Govt., NW SW SW Sec. 4-35n-65w. Prep. to spd.
Minnelusa Oil Corp.-MacKinnie O. & D. Co. No. 5 Thompson, SE SE NW Sec. 7-35n-65w. Drlg. 4,415 ft.
Continental Oil Co. No. 3-B Dielman, SW SE NW Sec. 8-35n-65w. Drlg. L. 4,206 ft.
Continental Oil Co. No. 2 E. Rohlff, NW SE NW Sec. 32-36n-65w. Drlg. L. 4,911 ft.; top r.b. 4,185 ft.; Minnekahta 4,727 ft.
Minnelusa Oil Corp. No. 2 Joss, SE NE SW Sec. 6-35n-65w. Cg. 5,180 ft.; top Leo zone 5,154 ft.
F. F. Hintze et al No. 1 Wright-Govt., C NW SE Sec. 30-36n-63w. T.D. 4,964 ft.; P.B. to 4,190 ft.; redrld. to 4,245 ft.; rng. pkr. to test Dakota.
Fall River Roy. & Prod. Co. No. 1 Govt., CSL SE SE Sec. 35-40n-61w. T.D. 1,000 ft.; fsg. bailer.
Continental Oil Co. No. 1 Delahoyde, CNL NE NE Sec. 25-37n-63w. Drlg. anhy. and dolo. 5,830 ft.

Sublette County

California Co. No. 1 Unit 1, C SW NE Sec. 14-31n-109w. Rng. rig found.
Wyo. Pet. Corp. No. 1 Budd, C NE NE Sec. 10-29n-113w. T.D. 1,695 ft.; prep. to run Schlumberger and then 8¼-in. and test S.O.&G.
Texas Co.-Frontier Pet. Co. No. 1 Govt. Unit, SE SE SW Sec. 1-28n-114w. Cg. 7,334 ft.

Sweetwater County

Sinclair-Wyo. Oil Co. No. 83 Lost Soldier, NW NE NE Sec. 10-26n-90w. Drlg. 2,097 ft.; top Sundance zone 2,037 ft.
Salegna Oil Co. No. 1 Union Pacific, C SW SW Sec. 10-20n-104w. T.D. 5,230 ft.; prep. to set whipstock at 2,900 ft. and drill by.

Uinta County

Drusilla Connell No. 6 Govt., C NW NW Sec. 24-15n-118w. S.D. 180 ft.
Stove Creek Oil Co. No. 2 Govt., C SW NW Sec. 26-14n-119w. T.D. 680 ft.; prep. to res.

Weston County

Union Trust Co. No. 1 Hockett, NE NE Sec. 23-47n-64w. S.D. 270 ft.; on top sd.
Whedon et al No. 1, C SW NE Sec. 21-46n-64w. T.D. 3,953 ft.; cmtd. 4½-in. 3,888 ft.; drlg. plg.
Root et al No. 1 Robey, CSL NW SW Sec. 19-45n-61w. Fsg.; unreported depth.
John Brorphy No. 1 George, SW SE NW Sec. 26-48n-64w. Res. at 2,304 ft.
Lem Johnston No. 1, NW SW Sec. 24-44n-63w. Drlg. below 3,300 ft. with gas showing from sd. at 2,850 ft.
F. P. Dilger et al No. 1, CEL SE SE Sec. 25-46n-64w. Drlg. 1,130 ft.

MONTANA

A completion in the Turner Valley field, which has been given the largest allowable of any well in that area, while across the line from Montana, is of particular interest to Montana operators. It was drilled by the Northwest Co., Ltd., for its joint account with the Hudson's Bay Oil & Gas Co., Ltd., in its No. 38 Royalite, in the northwest subdivision of Section 8-12-2. According to official advices received by W. H. Ferguson, executive vice president of the Continental Oil Co., it had an initial production of 3,600 bbls. per day, after acidization, with 6,000,000 cu. ft. of gas. Under a government test through a 2-inch bean, it made 2,664 bbls. per day, and was given an allowable of 563 bbls. per day, the largest of any well in Turner Valley.

Carbon County

R. R. Tarrant No. 3 Govt., C SW NW Sec. 4-6s-18e. Spd. to 80 ft. and S.D.
Alex Beaton No. 1, CSL SE SE Sec. 23-6s-23e. T.D. 1,596 ft.; str. cr. hole.
Miracle Oil Co. No. 2 Govt., CWL NE SE Sec. 3-6s-23e. T.D. 2,381 ft.; fsg.; tools stk. at 1,600 ft.

Glacier County

Cut Bank had one completion, a better than average well, and two new operations. Tarrant-Wiley No. 3 Jones, SW NW SW Section 31-34n-5w, swabbed 225 bbls. the first 24 hours at 2,846 feet from the Cut Bank sand at 2,795-2,840 feet. The Sunburst sand was at 2,765-86 feet with a good show of oil at 2,785 feet. The 8⅝-inch was cemented at 2,780 feet and 26 feet of 7-inch liner was landed at 2,800 feet.

A. R. Pardue No. 2 Tribal-170, NW SW SW Sec. 7-32n-5w. M.I.M.; (first report).
R. C. Tarrant No. 4 State, SE NE SE Sec. 36-34n-6w. R.O.G.; (first report).
Chandler & Newell No. 1 Hinstrager, C NE NW Sec. 24-37n-5w. T.D. 445 ft.; Colo. 425-30 ft.; 10¾-in. 206 ft.; drlg. wtr. well.
A. B. Cobb No. 1 Vargo, C SE NE Sec. 19-37n-4w. Spdg. 80 ft.
Santa Rita O. & G. Co. No. 2 Govt., SW SW NE Sec. 7-32n-5w. Spdg. 75 ft.
Santa Rita O. & G. Co. No. 4 Ritchie, C NW NW Sec. 5-33n-5w. Drlg. 2,225 ft.
Tarrant-Wyley No. 2 Connolly, C SW NE Sec. 31-34n-5w. R.U.
Tarrant-McLellan No. 2 McLellan, C SW SE Sec. 12-34n-6w. Drlg. 1,150 ft.; Colo. 400 ft.; 10¾-in. 414 ft.
Texas Co. No. 6 Unit 9, C SW NW Sec. 9-32n-5w. Drlg. 2,649 ft.
Glacier Prod. Co. No. 1 Callison Unit, SE SE NW Sec. 27-34n-5w. Drlg. 2,450 ft.
Glacier Prod. Co. No. 2 McDougal, C SW NW Sec. 31-34n-5w. Drlg. 2,830 ft.
Glacier Prod. Co. No. 3 Miller, C NE NE Sec. 29-33n-5w. Drlg. 2,995 ft.

Meagher County

Dan Drumheller is rigging up for a test to the Madison lime on the Moss Agate structure in his No. 1, SW SE NE Section 25-7n-7e, 12 miles south of Sulphur Springs. He has a block of 5.000 acres covering a structure 2 miles long and 1 mile wide. The top of the objective is expected at 1,500 feet.

Dan Drumheller No. 1 Moss Agate, SW SE NE Sec. 25-7n-7e. R.U.C.T.

Teton County

Zodiac Oil Co.-Gulf States Oil Co. No. 1 Kellogg, NE NW NE Sec. 33-28n-5w. S.D. 2,775 ft.

Toole County

The Kevin-Sunburst field came to the front the past week with the biggest well completed in recent years. A feature of the completion is that normally it would have been classed as a dry hole. The well is the Big West Oil Co. No. 8 Dahlquist, SW NW NE Section 28-35n-3w. No test was made which would indicate its capacity, but it started off at the rate of 47 bbls. an hour through the 2-inch tubing. Pinching it gradually started at once. It was pinched down to 500 bbls. a day and then it was attempted to reduce the flow to 400 bbls. The well is in what is known as the Rocky Ridge pool and the oil is sweet with a gravity of 39.5 degrees. It was dry in the Madison contact at 1,735 feet, the horizon from which most of the wells produce. It was drilled on down to 1,781 feet where it ran into water. After plugging back to 1,768 feet it was shot with 100 quarts and then acidized with 500 gallons. Producers in the vicinity that make 100 bbls. initial are considered good wells.

There was one other completion in A. E. Crumley & Son No. 14 Fryberger, CSL NW SE Section 24-33n-3w, which is pumping 40 bbls. of oil and 20 bbls. of water per day at 1,605 feet from the contact at 1,560-80 feet.

(Continued on Page 126)

West Texas Fields

(Continued from Page 114)

Crane County

Gulf Oil Corp. No. 63 McElroy, 2,780-2,981 feet, 266

"Clean Out with a MILLER!"

That's the advice of the man who has used the MILLER Sand Pump—seen its powerful suction action clean-out in half the time—*increase production.*

The MILLER is made in diameters of 2½, 3, 3½, 4, 4½, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type. ¼-inch wall tubes in HEAVY Type Sand Pumps.

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See Pages 1564-65 COMPOSITE CATALOG

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SUBSCRIPTION?

bbls. (O.W.D.D.). Humble Oil & Refining Co. No. 26 Tubbs, 4,255-4,440 feet, 2,901 bbls.

Crockett County

Clark & Cooper No. 1 Shannon, 2,545-78 feet, 319 bbls. Hanson & Anderson No. 1 Loelke, temporarily abandoned location.

Howard County

Magnolia Petroleum Co. No. 1 Hyman-Chalk, 2,705-2,889 feet, 1,454 bbls. (O.W.D.D.). Moore Brothers No. 4-B O'Daniel, abandoned location.

Ector County

Gulf Oil Corp. No. 179 Goldsmith, 4,162-4,213 feet, 2,613 bbls. Gulf Oil Corp. No. 181 Goldsmith, 4,131-80 feet, 1,252 bbls. Gulf Oil Corp. No. 182 Goldsmith, 4,130-87 feet, 853 bbls. Gulf Oil Corp. No. 183 Goldsmith, 4,082-4,168 feet, 133 bbls. Kewanee Oil Co. No. 4-A University, 3,353-3,650 feet, 1,247 bbls. Landreth Production Co. No. 2-Q Scharbauer, 4,171-4,204 feet, 221 bbls. Phillips-Pure No. 60 C. Cowden, 4,077-4,134 feet, 866 bbls. Shasta Oil Co. No. 8 Scharbauer, 4,172-4,215 feet, 828 bbls. Shell Oil Co., Inc., No. 3-B Witcher, 4,030-4,230 feet, 1,242 bbls. Sunray Oil Co. No. 4 Johnson, 4,196-4,281 feet, 842 bbls. Texon Oil & Land Co. No. 1-A Midland National Bank, 4,280-4,408 feet, 2,467 bbls. Tide Water and Atlantic No. 5-C Holt, 4,330-4,480 feet, 1,791 bbls.

Irion County

J. W. Ellis No. 1 Sol Mayer, dry and abandoned at 2,438 feet.

Pecos County

Culbertson-Irwin No. 1 Ed Fromme, 1,425-52 feet, 102 bbls. W. H. Street No. 8 Shearer-Texas, 1,488-1,501 feet, 201 bbls. Union Oil & Mining Co. No. 1 First National Bank, Fort Stockton, 1,798-1,889 feet, 242 bbls.

Scurry County

James T. Brooks No. 1 First National Bank, Snyder, location temporarily abandoned.

Ward County

Gulf Oil Corp. No. 109 O'Brien, 2,589-2,767 feet, 182 bbls. Buffington & Smith No. 1 Emery, 2,190-2,232 feet, 27 bbls. H. I. Waid No. 4 Brown Heirs, 1,781-1,867 feet, 320 bbls. Western Well Service Co. No. 2 Susie B. Lackland, 1,950-2,098 feet, 166 bbls. Western Well Service Co. No. 8 Susie B. Lackland, 2,045-85 feet, 218 bbls.

Winkler County

Atlantic Refining Co. No. 3-J Hendrick, 2,780-3,097 feet, 32 bbls. (O.W.D.D.). Magnolia Petroleum Co. No. 226 Walton, 3,181-3,260 feet, 211 bbls. Magnolia Petroleum Co. No. 227 Walton, 3,140-85 feet, 282 bbls.

Upton County

White & Wilson No. 1 Webb, dry and abandoned at 3,310 feet.

Yoakum County

Aloco Oil Co. No. 2 Pear Chatterson, 4,950-5,150 feet, 864 bbls. Aloco Oil Co. No. 1-B Willard, 4,908-5,182 feet, 659 bbls. Honolulu Oil Corp. No. 2 R. M. Kendrick, 5,019-5,147 feet, 1,103 bbls. Honolulu Oil Corp. No. 2-741 Willard, 4,980-5,225 feet, 1,239 bbls. Humble Oil & Refining Co. No. 11 H. O. Wooten, 4,936-5,150 feet, 968 bbls. Tide Water Oil Co. No. 2 Koontz, 4,935-5,135 feet, 1,177 bbls.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gauges)

Brown County

Delmarva Oil Corp. No. 3 Shields, 535-52 feet, 4 bbls.

Callahan County

Johnson No. 5 Harris, dry and abandoned at 532 feet. McCall No. 1 Metcalf, dry and abandoned at 410 feet.

Eastland County

Miller & Ames No. 1 Butler, dry and abandoned at 1,252 feet.

Jones County

Carroll No. 1 Herndon, dry and abandoned at 3,375 feet. Fain-McGaha Oil Corp. and Sinclair Prairie Oil Co. No. 4 Lyckman, 3,231-39 feet, 500 bbls. oil in eight hours. B. Fields No. 3 Humphrey, 3,235-48 feet, 366 bbls. oil in six hours. Humble Oil & Refining Co. No. 1 Huddleston, dry and abandoned at 3,125 feet. Ungren & Frazier No. 2 Brock, 1,876-99 feet, 334 bbls. Ungren & Frazier No. 2 Cox-Hamilton, abandoned location. Ungren & Frazier No. 3 Griffin, 3,245-60 feet, 622 bbls. oil in 12 hours.

Palo Pinto County

Gordon No. 1 Conway, dry and abandoned at 4,035 feet.

Shackelford County

Hazelwood No. 2 Lynch, dry and abandoned at 400 feet. Lee & Key No. 18 Diller, 513-32 feet, 6 bbls. Owens-Snebold No. 2 Haterius, 3,175-3,203 feet, 457 bbls. oil in 5½ hours. Palm No. 1 Green, dry and abandoned at 502 feet. Pritchard-Meadows No. 1 Pritchard, dry and abandoned at 710 feet. Roeser & Pendleton and Continental Oil No. 31-A-85 Cook, 1,370-80 feet, 91 bbls.

PANHANDLE FIELD COMPLETIONS

(24-hour gauges)

Carson County

Hagy, Harrington & Marsh No. 1 A. J. Dillard, dry and abandoned at 3,275 feet. Magnolia Petroleum Co. No. 53 fee No. 244, 3,075-3,135 feet, 338 bbls.

Gray County

Northern Natural Gas Co. No. 1 Baird-Talley, 2,670-2,773 feet, 9,138,000 cu. ft. of gas. Sunray Oil Co. No. 4 R. W. Ferguson, 2,935-60 feet, 311 bbls. Sinclair Prairie Oil Co. No. 6 R. W. Harish, 3,169-3,278 feet, 191 bbls.

Hutchinson County

Gulf Oil Corp. No. 91 Dial, 2,901-97 feet, 257 bbls. Huber Petroleum Co. No. 8 W. E. Herring, 2,708-2,809 feet, 7,784,000 cu. ft. of gas. Huber Petroleum Co. No. 9 W. E. Herring, 2,754-2,837 feet, 15,674,000 cu. ft. of gas. Mid-States Oil Co. No. 25-A Whittenburg, 2,912-56 feet, 739 bbls. Stansylvania Oil Co. No. 5 Belle Wilson, 2,970-3,060 feet, 437 bbls.

Moore County

Texoma Natural Gas Co. No. 18-P J. T. Sneed, 2,666-3,161 feet, 22,550,000 cu. ft. of gas. Texoma Natural Gas Co. No. 19-Sn J. T. Sneed, 2,570-2,976 feet, 25,743,-000 cu. ft. of gas.

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THE OIL and GAS JOURNAL

TULSA, OKLA.

Oklahoma Operations

By
DAL DALRYMPLE

Extend Shawnee Production; Two New Oil Wells at Coyle

Interest has been revived in the Shawnee pool, Pottawatomie County, Oklahoma, by a southwest extension well at Yorkan Production Co. No. 1 Williams, SE NE NE Section 6-10-4e. Sand was found at 4,437-39 feet, and it flowed 620 bbls. of oil in 28 hours, with 500,000 cu. ft. of gas. On later test it flowed 392 bbls. of oil in 24 hours. It may be deepened a few feet. Two other tests in the area were being started.

Two wells in the Coyle pool, Payne County, were near completion and will extend the productive area in two directions. Texas Co. No. 1 J. S. Graham, C E half NE SE Section 11-17-1e, had Wilcox sand at 4,905 feet, total depth 4,938 feet, and flowed 114 bbls. of oil in 24 hours. It extends production one location southwestward. Magnolia Petroleum Co. No. 2 Cain, C E half NW SW Section 12-17-1e, made one 20-minute flow while drilling at 4,858 feet, but the amount of oil was not gauged as the offset producer was flowing into the same tank. It extends production one location southeastward.

The Oklahoma Corporation Commission has ordered 20-acre spacing for the new West Doyle pool in Stephens County, recently opened at Phillips Petroleum Co. No. 1 Culbertson, NW NW SE Section 4-1n-5w. Gas-oil ratio was fixed at 2,000 cu. ft. of gas to 1 bbl. of oil. The structure is expected to cover about 3,040 acres, and the spacing order extends over NE and SE quarters Section 32, all of Section 33 and SW quarter Section 34-2n-5w, and all of Sections 3 and 4, NE quarter of Section 5, NE quarter of Section 9 and NE and NW quarters of Section 10-1n-5w.

Leases on five tracts of Indian land in Caddo County and three tracts in Kiowa County were sold at auction at the Kiowa Agency in Anadarko. The leases covered 846.97 acres and brought total bonus and rentals of $5,042. Magnolia Petroleum Co. paid $5 an acre for N half NW and SW NW Section 22-6-10w, and $9 an acre for SW SE and NW SE Section 23 and SE quarter Section 26-6-11w, Caddo County. Cities Service Oil Co. paid $5.40 an acre for E half SE Section 34-6-11w, Caddo County. Indian Territory Illuminating Oil Co. paid $1.56 an acre for Lots 1 and 2 and E half NW Section 19-7-14w; $2.56 an acre for SW Section 20-7-14w, and $1.52 an acre for 92.88 acres south of the river in SE quarter Section 1-7-15w, all in Kiowa County.

Pottawatomie County

Campbell Drilling Co. and others No. 1 Bruno, NW SE SE Section 31-7-5, St. Louis district, Pottawatomie County, topped dolomite at 4,039 feet, total depth 4,096 feet, was acidized and completed for initial production of 360 bbls. of oil.

W. A. Delaney and others No. 2 Bruno, SW NE SE Section 31-7-5, had dolomite at 4,070 feet, total depth 4,125 feet, and made initial daily production of 395 bbls. of oil after acidizing.

Same operators' No. 3 Bruno, NE NE NE Section 31-7-5, was acidized and swabbed 590 bbls. of oil and 1,000 bbls. of water in 24 hours. Top of dolomite was 4,083 feet, total depth 4,103 feet.

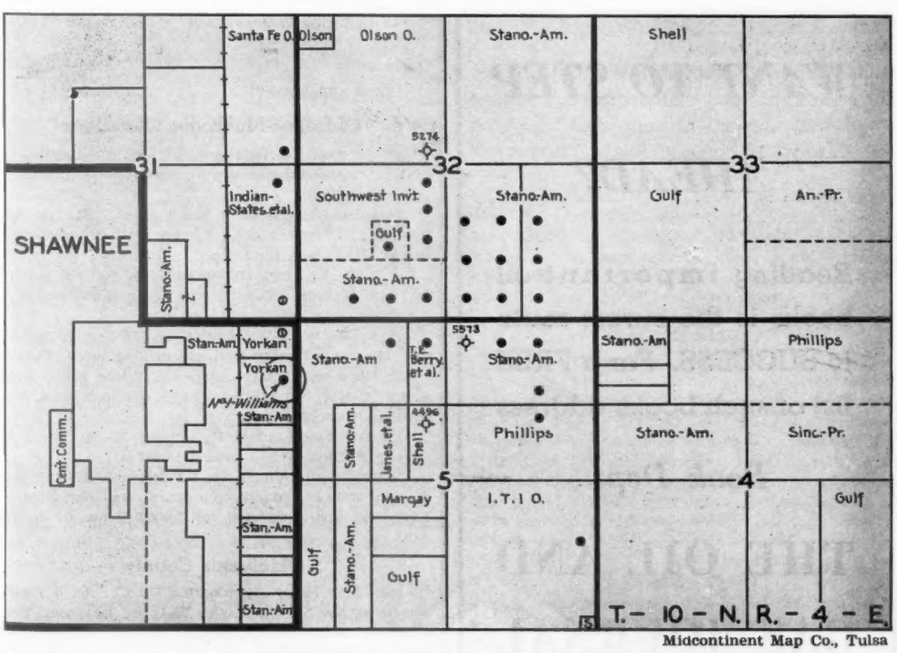
Eagle Oil Co. No. 2 Green, SW NW SE Section 29-7-5, was completed for 355 bbls. of oil daily at 4,096 feet, total depth.

Burns Oil Co. No. 1-A Pappan, SE SW SE Section 16-7-4, was dry and abandoned at 4,001 feet, total depth.

Amerada Petroleum Corp. No. 1 Harrison, NW NW SW Section 33-7-4, flowed 151 bbls. of oil in 24 hours from Wilcox sand at 4,289-4,300 feet, total depth.

Oklahoma Oil Corp. No. 1 Thomas, SE SW SE Section 29-7-4, was acidized and flowed 65 bbls. of oil and 220 bbls. of water in 20 hours. Seven-inch casing was set at 4,124 feet, total depth 4,240 feet.

New activity in Pottawatomie County: Mid-Continent Petroleum Corp. No. 4 Upton, SE NE NE Section 1-6-4, rig; Big Chief Drilling Co. No. 1 Green, NW SW SE Section 29-7-5, drilling below 725 feet; Robinson, Tabor and others No. 4 Johnson, SE NE SW Section 29-7-5, rig.



Midcontinent Map Co., Tulsa

Yorkan Production Co. extended the Shawnee pool, Pottawatomie County, to the southwest at No. 1 Williams, Section 6-10-14

Among the Wildcats

Burke-Greis Oil Co. and others No. 1 Vanderslice, NE NE SE Section 30-14-7, wildcat in southwestern Creek County and south of the Stroud pool, was completed for daily yield of 4,000,000 cu. ft. of gas. It topped Prue sand at 2,837 feet and was bottomed at 2,884 feet.

W. M. Dunn and others No. 1 Anthis, NW SE SE Section 34-14-10, wildcat in the East Tuskegee area, Creek County, was reported completed for 110 bbls. of oil daily from Misener sand at 3,196 feet, total depth.

Ed Parsons and others No. 1 Kenney, SE SE SW Section 30-3-8w, Comanche County wildcat, had nothing showing and was abandoned at 6,030 feet, total depth.

Same operators' No. 1 Stephens, C NE SW Section 29-4-9w, wildcat in Comanche County, was dry and abandoned at 314 feet, total depth.

Continental Oil Co. No. 1 Luedtman, C SW SE Section 2-21-4w, wildcat on the flank of the Garber field, Garfield County, topped Oswego lime at 5,053 feet, Mississippi lime 5,616 feet and was dry and abandoned at 5,645 feet, total depth.

Acre & Lee No. 1 Atchison, C NW NE Section 13-24-11w, wildcat in Alfalfa County, was reported as an abandoned rig.

Elliott and others No. 1 Teten, SE SE NE Section 35-20-25w, location for a wildcat in Ellis County was reported abandoned.

Cooper Drilling Co. No. 1 Blaney, SW SW NW Section 13-14-5, was location for a wildcat in Lincoln County.

Seminole County

Texas Co. No. 2 Eliza, SE NE SE Section 19-7-8, in the Seminole County sector of the Fish pool, flowed 936 bbls. of oil the first 24 hours and 510 bbls. the next 24 hours. It topped dolomite at 4,087 feet and was bottomed at 4,041 feet.

Cooper Drilling Co. No. 1 Cosar, SE NW SW Section 12-6-5, Grayson area, found Earlsboro sand at 2,726 feet, total depth 2,837 feet, was shot and completed for 235 bbls. of oil initially.

Mid-Continent Petroleum Corp. No. 2 Tiger, SE SW SE Section 12-6-5, had initial 24-hour production of 121 bbls. of oil and was completed at 2,780 feet, total depth.

Patterson and others No. 1 Johnson, NW SW SW Section 27-6-5, topped Earlsboro sand at 2,726 feet, total depth 2,752 feet, was shot and had initial yield of 235 bbls. of oil.

Hall-Troup-Moore No. 2 Damron, SW NW SW Section 3-6-6, was completed for 8,000,000 cu. ft. of gas daily at 2,894 feet, total depth.

J. F. Smith and others No. 1 Smith B, NE NW NE Section 20-7-6, was dry and abandoned after plugging back to 4,272 feet from 4,368 feet, total depth.

Malarnee & Shelton No. 2 West, SW SE NW Section 33-7-6, was bottomed at 2,980 feet, plugged back to 2,978 feet in Boggy sand topped at 2,901 feet, and completed for 60 bbls. of oil daily.

J. F. Smith and others No. 1 Yarhola, SE NE SW Section 2-8-6, was dry and abandoned at 4,150 feet, total depth.

Halko & Myers No. 1-A Spencer, NW SE NW Section 19-8-8, was dry and abandoned at 1,638 feet, total depth.

Pure Oil Co. No. 1 Choya, NW SW NW Section 21-7-6, West Little River district, was bottomed at 4,454 feet and completed for 2,400,000 cu. ft. of gas daily.

Troup & Moore No. 1 White, NE SE SW Section 30-6-8, was a location.

Pontotoc County

Sinclair Prairie Oil Co. No. 5 Starrett B, NW NW NE Section 21-5-5, Bebee area, Pontotoc County, had Viola lime at 2,597 feet, total depth 2,643 feet, was

acidized with 2,000 gallons and pumped 55 bbls. of oil in 24 hours.

Barbara Oil Co. No. 6 Mount, SE NW NW Section 36-5-7, was dry and abandoned at 2,283 feet, total depth.

Superior Oil Co. No. 1 Summers, NE NE NW Section 36-5-4, Bebee field, topped Viola lime at 2,406 feet, total depth 2,951 feet, and pumped 211 bbls. of oil in 24 hours.

Senora Oil & Gas Co. No. 1 Burke, NW NE NE Section 36-5-4, was a rig.

Payne-Noble-Pawnee-Osage

Mid-Continent Petroleum Corp. No. 6 Columbia, SW NW SW Section 18-18-2e, Ramsey pool, Payne County, found Wilcox sand at 4,804-34 feet, total depth, flowed 718 bbls. of oil in four hours and made 24-hour potential of 4,720 bbls. of oil, with 2,500,000 cu. ft. of gas. It is the twenty-sixth producer in the pool, and is one of the smaller wells.

Phillips Petroleum Co. and Shell Oil Co. No. 2 Harbison, SW NW SW Section 22-23-2w, Billings pool, Noble County, topped Wilcox sand at 4,298 feet, total depth 4,322 feet, flowed 828 bbls. of 43-gravity oil in four hours and made 24-hour potential of 4,968 bbls.

Two new operations in Pawnee County were: Johnson Oil Refining Co. No. 3 Finley, NW NE NW Section 27-20-9, drilling below 1,850 feet; and same company's No. 4 Finley, SW NW NW Section 27-20-9, drilling below 550 feet.

Two completions in Osage County were reported. Kansas-Oklahoma Consolidated Oil Co. No. 20 Osage, in the Hickory Creek pool, northeastern corner of the county, had Peru sand at 930-78 feet, total depth 1,000 feet, and pumped 10 bbls. of oil daily.

Barnsdall Oil Co. No. 9 Osage, SW NE SW Section 23-24-10, had sand at 1,697-1,732 feet, total depth 1,774 feet, and pumped 35 bbls. of oil in 24 hours.

Lincoln County

Wilcox Oil & Gas Co. No. 3 School Land, South, SE NW SE Section 16-14-6, Sac and Fox field, Lincoln County, was completed at 3,077 feet, total depth, for 90 bbls. of oil daily from Prue sand.

Helmerich & Payne, Inc., and others completed a 5-bbl. well at No. 3 Kenworthy, NE NW SW Section 14-14-6, producing from Prue sand topped at 2,907 feet, total depth 2,983 feet.

Mudge Oil Co. No. 3 Maddox, NE NE SE Section 9-14-6, had Prue sand at 3,115-40 feet, total depth, set pipe at 3,114 feet, was shot and flowed 40 bbls. of oil in 12 hours.

Allied Materials Co. No. 3 Laffoon, NE SW NE Section 9-13-6, Laffoon area, topped Wilcox sand at 4,165 feet, total depth 4,230 feet, was shot and flowed 60 bbls. of oil in 24 hours.

Elbar Oil Corp. No. 1 Black, SW cor. Section 32-16-6, was rigging up rotary. Wilcox Oil & Gas Co. No. 27 Sac and Fox, SW cor. Section 15-14-6, was moving in rig.

Creek-Tulsa Counties

Marble & Muna No. 1-A Parks, NE SE NE Section 12-17-7, Cushing field, Creek County, topped Bartlesville sand at 2,985 feet, had a hole full of water and was abandoned at 3,110 feet, total depth.

R. E. Vensel No. 1-A Watson, SW SW NE NW Section 2-17-12, Tulsa County, was shot and pumped 8 bbls. of oil daily from Red Fork sand topped at 1,260 feet, total depth 1,293 feet.

L. E. Martin and others No. 1 Hurd, NW NW NE SW Section 18-18-14, Tulsa County, was dry and abandoned at 1,362 feet, total depth.

New work in Tulsa County: A. Pepis No. 2 Bishop, SW SE SW Section 35-19-12, was shut down at 1,744 feet. M. S. Johnson No. 2 fee, SW NE NW Section 5-17-14, was shut down at 500 feet.

In Creek County: Salisbury, Inc., No. 1-A Pierpont, C SW SW Section 9-16-7, location; Strozier Drilling Co. No. 1-A Baker, NE SE NW Section 20-17-9, drilling below 650 feet; Mid-Co Oil Corp. No. 3 Leverett, NE SE NW Section 7-16-10, running casing at 520 feet; Vierson Drilling Co. and others No. 2 Kimball, C SE NE Section 10-14-10, drilling.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending April 29, and for the preceding week, was as follows

	Barrels	
	Apr. 29	Apr. 22
Allen	6,750	5,875
Billings	5,875	5,375
Burbank	7,775	7,750
South Burbank	9,375	9,400
Balance Osage	18,725	18,500
Blackwell district	4,025	3,950
Bristow-Slick	7,125	7,050
Chandler	1,650	1,700
Crescent	3,550	3,450
Cromwell	3,025	3,075
Cushing-Shamrock	10,125	10,150
Duncan district	4,425	3,950
Edmond	5,450	5,250
Fish	3,775	3,325
Fitts	27,750	29,800
Jesse	2,550	2,750
Graham-Fox	4,175	4,400
Gray	875	900
Healdton	9,650	9,100
Hewitt	4,025	3,625
Keokuk	3,725	3,825
Konawa	1,125	1,100
Lucien	7,850	7,975
Moore	3,525	3,575
Oklahoma City	104,150	104,475
Olympic	3,400	3,375
Ramsey	4,550	3,900
Sasakwa	1,375	1,350
Sholem Alechem	3,050	2,325
Seminole district:		
Bowlegs	8,725	8,775
Carr City	3,025	3,000
Dora	4,125	4,325
Earlsboro	5,050	5,100
South Earlsboro	600	600
East Earlsboro	4,175	4,225
Little River	7,450	7,550
East Little River	800	850
Maud	1,125	1,150
Mission	1,625	1,675
Seminole	8,200	8,275
East Seminole	1,400	1,425
Searight	2,575	2,550
Total Seminole	48,875	49,500
St. Louis-Pearson	39,250	34,250
Tatums	2,250	1,825
Tonkawa-Garber-Thomas	4,150	4,050
Wewoka	2,475	2,075
Yale-Jennings	3,700	3,625
Other pools	88,000	85,000
Total Oklahoma	462,125	451,600

Okfuskee-Muskogee-Okmulgee

W. B. Pine No. 1 Canard, NW SE SW Section 12-10-11, Okfuskee County, was dry and abandoned at 2,155 feet, total depth.

Petroleum Grubstakers No. 1 Scott, CSL NE NW Section 21-13-19, Muskogee County, was dry and abandoned at 845 feet, total depth.

J. R. Parks No. 1 Hildebrand, NW NE NE Section 20-14-19, Muskogee County, was dry and abandoned at 1,359 feet, total depth.

P. Atkins No. 1 Williams, C SE NE Section 3-15-18, new Muskogee County test, was drilling below 70 feet.

In Okfuskee County, Suppes & White No. 5 Alexander, C NW NE Section 35-11-9, Okemah area, was drilling below 350 feet.

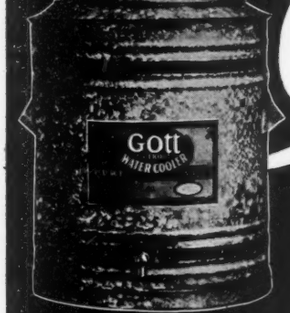
In Okmulgee County, R. Vincent No. 2 Eves, NW SW SE Section 9-15-14, was a location.

Hollifield and others No. 1-A Howard, SW NE NW Section 32-14-14, Okmulgee County, was bottomed at 1,739 feet and completed for 7,000,000 cu. ft. of gas daily.

Oklahoma County

Indian Territory Illuminating Oil Co. No. 4 Emerson-Joyce, SW NE NE Section 25-11-3w, Oklahoma City field, Oklahoma County, topped Hoover sand at 3,009 feet, was bottomed at 4,061 feet, and had initial daily yield of 148 bbls. of oil.

(Continued on Page 126)



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THE OIL AND GAS JOURNAL

Kansas Developments

By
DAL DALRYMPLE

Hittle Gusher Given 24-Hour Rating of 17,508 Bbls. of Oil

Completion of a 17,000-bbl. producer in Cowley County was the highlight of field activity in Kansas the past week, but the seven-day period was not without other features. The second shallow sand discovery in as many weeks was recorded in Johnson County, on the flank of the Forest City basin. A pool opener was completed in Rice County and several proven areas were extended.

The new Rice County area, already named the Barngrover pool, was opened at Gulf Oil Corp. No. 1 Barngrover, CWL SW SW Section 30-19-9w, nearly 1 mile west of the Chase field. It made initial potential of 1,322 bbls. of oil daily at total depth of 3,284 feet in Arbuckle lime.

A one-fourth mile southward extension of the Campbell pool in Rice County was indicated at C. H. Weaver No. 1 Peterson, CNL NE Section 4-20-9w. It found Arbuckle lime at 3,233-60 feet and oil began rising in the hole. It was shut down to set casing and will be acidized for production test.

Transwestern Oil Co. No. 1 Dougherty, SW SW NE Section 33-18-10w, extended the Stumps area one-half mile eastward in southern Ellsworth County. It made daily potential of 1,718 bbls. of oil at total depth of 3,328 feet in Arbuckle lime.

Productive limits of the Geneseo pool in Rice County were extended one-fourth mile southward at Sinclair Prairie Oil Co. No. 1 Smith, NE SE Section 1-19-8w. It found Arbuckle lime at 3,265-68 feet and made potential of 635 bbls. of oil daily.

Another Rice County extension was recorded at Duwe & Farris No. 1 Weins, SE NE NE Section 6-19-9w, which pushed the Haferman pool limits one-fourth mile northward. It was bottomed at 3,253 feet in Arbuckle lime and made initial daily potential of 400 bbls. of oil.

Stanolind Oil & Gas Co. No. 1 Elsen, NE NW NW Section 6-22-12w, one-fourth mile southeast of production in the Fischer pool, Stafford County, made 24-hour potential of 384 bbls. of oil from Arbuckle lime at 3,638-48 feet, total depth.

Lauck & Moncrief and others No. 1 McConnaughley, SW cor. Section 18-24-13w, 1¼ miles southeast of the Rattlesnake pool, in Stafford County, was reported drilling around 4,225 feet in Arbuckle lime with nothing showing. It found saturation in Lansing lime and may plug back.

Among the Wildcats

The first producing oil well to be completed in the Forest City basin or on its flanks was recorded the past week at Sagamore Oil & Gas Co. No. 1 Metropolitan Life, SW SE SE Section 20-14-22, Johnson County. It found Bartlesville sand pay at 886-94 feet, total depth, was shot and estimated good for 25 bbls. of oil a day, completed. Production was from the lower Bartlesville section. This wildcat is about 2½ miles southwest of OK Supply Co. No. 1 Knabe, C NE NW Section 15-14-22, Johnson County discovery well that is estimated good for 50 to 75 bbls. of oil daily after a shot. Operators were cleaning out at No. 1 Knabe, preparatory to completing it and starting another test on the company's block. The No. 1 Knabe had upper Bartlesville at 707-28 feet and was bottomed in lower Bartlesville at 856 feet, with oil showing in both sections. Some observers believe that these two Johnson County discovery wells may have opened a shoestring pool.

C. L. Carlock and others No. 1 Evans, SW SW SE Section 6-25-2e, wildcat in Sedgwick County, had Wilcox sand at 3,518 feet, Arbuckle lime 3,574 feet, and was dry and abandoned at 3,608 feet.

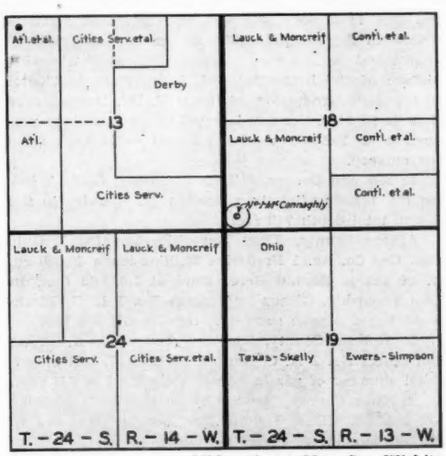
Transwestern Oil Co. No. 1 Ney, SW SW SE Section 8-16-11w, Barton County wildcat, was dry and abandoned at 3,359 feet in Arbuckle lime.

Phillips Petroleum Co. No. 1 Newbold, SE SE NE Section 2-19-9w, Rice County wildcat, topped Simpson zone at 3,375 feet, Arbuckle lime 3,428 feet, and was dry and abandoned at 3,445 feet.

J. C. Shaffer, Inc., No. 1 Hitchman, SW SW NW Section 29-16-12w, wildcat in Barton County, had Arbuckle lime at 3,425 feet and was dry and abandoned at 3,465 feet.

C. L. Carlock and others No. 1 Hartenbower, NW cor. Section 16-29-6, Butler County wildcat, topped Mississippi lime at 2,810 feet, Arbuckle lime 3,249 feet, and was dry and abandoned at 3,257 feet.

Shaffer & Smith No. 1 Shaffer, NW NW SE Section 9-13-11w, Russell County wildcat, was a rig. Cities Service Oil Co. No. 1 Pope, SE NE SW Section 21-31-3, wildcat in Cowley County, had spudded. H. H. Billerman No. 1 Huston, C S half SW SW Section 36-24-13, Woodson County wildcat, was drilling below 1,555 feet.



Midcontinent Map Co., Wichita

Lauck & Moncrief's outpost 1¼ miles southeast of the Rattlesnake pool, Stafford County, found saturation in Lansing lime but at last report had not found oil in Arbuckle lime

Gulf Oil Corp. No. 1 Linke, C E half NE SE Section 36-19-10w, Rice County wildcat, was rigging up rotary. Alex McCoy No. 1 Berns, SE NW NE Section 29-22-6, wildcat in the southwestern corner of Chase County, was drilling below 600 feet. It is the first test to be drilled in that district in several years.

Stafford County

Sinclair Prairie Oil Co. No. 9 Krey, C E half E half NE Section 14-24-11w, Zenith pool, Stafford County, flowed 104 bbls. of oil in four hours and was completed for 24-hour potential of 1,103 bbls. Production was from Misener sand at 3,761-84 feet, total depth.

Continental Oil Co. and others No. 1 Russell, SE NE NW Section 13-25-13w, Leesburgh pool, had Arbuckle lime at 4,115-32 feet, total depth, pumped 930 bbls. of oil in eight hours and was completed for daily potential of 2,791 bbls.

Cowley County

One of the larger Kansas oil wells of the last decade was completed the past week at Barnett, Connelly & Harbar Drilling Co. No. 1 Waite, NE NW SW Section 21-31-4e, one-fourth mile west of production in the Hittle pool, Cowley County. It was given 24-hour potential rating of 17,508 bbls. of oil, following bottom-hole pressure tests. Bottom-hole pressure while flowing was 1,270 pounds. It flowed 602 bbls. of oil in two hours, and in another four-hour test was reported to have flowed from 397 to 438 bbls. of oil an hour through two 3-inch flow lines. Production was from Arbuckle lime at 3,360-68 feet, total depth.

New tests reported in the Hittle area included: Arthur Brewer No. 1 Hughes, NE NE SE Section 20-31-4e, west of the big producer, building rotary rig; A. D. Barnett and others No. 2 Waite, SE NW SW Section 21-31-4, south offset to No. 1 Waite, cellar; Cities Service Oil Co. No. 1 Waite, SE SW NW Section 21-31-4, north offset, cellar.

Ellsworth County

Central Petroleum Co. No. 1 Wessler, C E half E half NW Section 19-17-9w, Schroeder pool, Ellsworth County, found Arbuckle lime at 3,242-53 feet, total depth, pumped 163 bbls. of oil in eight hours and made 24-hour potential of 490 bbls.

Graham County

The Morel pool in Graham County was extended 1¼ miles southeastward at Continental Oil Co. No. 1-A Putnam, C W half W half NW Section 23-9-21w, completed the past week in Arbuckle lime at 3,794-3,805 feet. It was acidized with 3,000 gallons, pumped 536 bbls. of oil in eight hours and made 24-hour potential of 1,609 bbls. Although listed as a wildcat, it was classed as an extension well.

Estimated Daily Production

Estimated daily production for Kansas for the week ending April 29, and for the preceding week, was as follows:

	Barrels	
	April 29	April 22
Oxford City	1,050	1,100
Burrton	8,800	8,700
Ritz-Canton	6,275	5,500
Graber	3,250	3,175
Hollow-Nikkel	3,175	3,125
Lerado	750	850
Voshell	1,700	1,750
Wellington	2,300	2,275
Ellsworth County:		
Lorraine	2,050	1,950
Other pools	1,450	1,465
Rice-Barton counties:		
Bloomer	2,425	2,450
Chase	4,625	4,625
Geneseo	3,250	3,350
Raymond	750	650
Silica	11,500	10,850
South Silica	2,400	2,500
Keesling	850	925
Wherry	4,725	3,850
Miscellaneous Rice	8,915	7,780
Miscellaneous Barton	7,950	8,450
Russell County	21,125	24,175
Sedgwick County	3,825	3,850
Ellis:		
Bemis	7,000	6,575
Miscellaneous	4,610	3,965
Kingman County	745	675
Stafford County	10,330	8,920
Greenwood County	9,050	9,000
Butler County	19,625	18,785
Other fields	23,225	19,760
Total Kansas	177,725	171,025

Russell County

Skelly Oil Co. No. 1 Goetz, NE SE NW Section 35-15-14w, Schneider pool, Russell County, drilled Arbuckle lime at 3,345-52 feet, total depth, pumped 273 bbls. of oil in three hours and made daily potential of 1,097 bbls.

Coralena Oil Co. No. 4 Sellens, NW NW SE Section 29-15-13w, was rigging up rotary.

Ellis County

Cities Service Oil Co. No. 7 Rumsey, SW SW NE Section 23-11-17w, Bemis field, Ellis County, found Arbuckle lime at 3,434-39 feet, total depth, oil rose

2,900 feet in the hole in 45 minutes and it was completed for initial potential of 3,500 bbls. of oil daily.

British American Oil Producing Co. No. 2 Karlin, NE NW NW Section 13-12-18w, Walters pool, made potential of 1,947 bbls. of oil in 24 hours after acid treatment. It had Arbuckle lime at 3,696-99 feet, total depth.

Rice County

Shell Oil Co. No. 14 Zajic, SW SE NE Section 13-18-8w, Geneseo field, Rice County, topped Arbuckle lime at 3,211 feet, was bottomed in lime at 3,226 feet, swabbed 234 bbls. of oil in three hours and made daily potential of 1,583 bbls.

Reno County

Westgate-Greenland Oil Co. No. 1-B Hegarty, NE NE NW Section 36-22-5w, Buhler pool, Reno County, pumped 223 bbls. of oil in eight hours from Simpson sand at 3,913-18 feet, total depth, and was completed for daily potential of 671 bbls.

Greenwood County

Katz & Veeder No. 1 Figgenberg, NE NE SE Section 2-25-8, Teichgraeber area, Greenwood County, found Bartlesville sand at 2,293-2,315 feet, total depth, pumped 25 bbls. of oil daily and was completed.

Marion County

Harwood Oil Co. and others No. 2 Novak, SE SE NW Section 28-17-4, Lost Springs pool, Marion County, flowed 100 bbls. of oil in six hours and made potential of 220 bbls. in 24 hours, pumping and flowing. It found Mississippi lime productive at 2,423-33 feet, total depth.

Butler County

I. S. Duston No. 2 Maxwell, NE SW SW Section 31-24-4, Potwin pool, Butler County, had Mississippi lime at 2,672-80 feet, total depth, was acidized and pumped 35 bbls. of oil daily.

New work in Butler County: Rex & Morris No. 3 Sutter, NW NW SE Section 7-28-7, location; Hugo Oil Co. No. 9 Adams, SW NE NE Section 9-27-6, rigging up machine; E. B. Shawver No. 16 Stone, SE SE NW Section 2-25-5, drilling below 1,185 feet.

In McPherson County, Continental Oil Co. and others No. 1 Mattson, SW NW NW Section 31-20-5w, was a location. Westgate-Greenland Oil Co. No. 1 Eason, SW SE NW Section 18-17-1w, was moving in material.

Forest City Basin Reports

ST. JOSEPH, Mo., May 1.—Drilling operations in the Forest City basin, and especially in the Missouri sector, are expected to increase within the next few weeks as muddy roads became passable and favorable weather prevails. Some of the major oil companies are showing increased interest in the area, and it is reported that some of the big companies are supporting wildcat tests.

Skelly Oil Co. is supporting the Birkett & Gillespie and Bradley Brothers No. 1 Gee, NW NW SE Section 28-60-35w, in Andrew County. It also is reported Stanolind Oil & Gas Co. is supporting the test. Operations are scheduled to start by May 20.

A deal also is reported pending by which the Skelly and Lario Oil & Gas Co. will support wildcat tests on acreage assembled by H. V. Elwell in Sullivan, Grundy and Harrison counties. Rig has been on the Sullivan County location for several months.

A wildcat was spudded in Clinton County the past week at C. E. King No. 1 Willis, NW NW NW Section 13-55-32w, the sixth North Missouri test to start drilling. Location is near the town of Plattsburg. Mr. King, formerly of Hutchinson, Kans., has headquarters at Houston, Tex. The crew was drilling below 160 feet.

W. F. Hopper and others No. 1 Black, NW NW NW Section 36-52-32w, in the old Liberty shallow gas field, Clay County, was shut down at 630 feet to permit installation of new clutch and sprocket wheel. Mr. Hopper reports a showing of 200,000 cu. ft. of gas at 345 feet in Wayside sand; a 5-bbl. show of oil at 372 feet; more gas and a 5-bbl. show of oil in Peru sand at 475 feet, and gas in Squirrel sand at 550 feet.

J. H. Everitt and others No. 1 Spring, SW SW SE Section 30-62-38w, near Mound City, Holt County, has been delayed while the crew struggled with tools frozen in the hole. It was bottomed at 12,440 feet. The hole may be reamed.

Operations were expected to be resumed soon at Eastern Drilling Co. No. 1 Williams, NW NW NE Section 28-53-32w, Clay County, which was spudded March 17 but was shut down while titles were being cleared.

L. R. Jones and B. C. W. Hyde, Jr., were reported to have staked location for No. 1 Holt, NW NE NE Section 34-60-35w, about 2 miles northeast of Savannah, Andrew County, on a 2,400-acre block.

Tentative location for a Carroll County test is reported to have been made by Dorsey Hager and associates. The proposed location is just east of the town of Tina, in Section 1-54-23, or across the road in Section 36-55-23.

Charles Delfeld and others No. 1 Turner, C NW NW Section 27-59-9w, Shelby County, first wildcat to be started in northeastern Missouri, had passed through shallow quicksands and was drilling at 185 feet.

A second northeastern Missouri test was expected to be started soon in Marion County by F. M. Coleman of Milwaukee, for Fabius River Development Trust of Quincy, Ill. It may be a St. Peter sand test unless production is found above that formation. A block of 1,600 acres has been assembled in Township 59, Ranges 6 and 7w, Marion County, and Township 60, Ranges 6 and 7w, Lewis County.

Ohio Fields

(Continued from Page 107)

with production costs at 20 cents per barrel, but that when other wells are drilled on the same property the costs will be less per barrel. One man, Mr. Ranney says, can operate a dozen wells as easily as one, and that then "lifting" costs should drop to 10 cents per barrel, or less.

The Engineers Society of Western Pennsylvania will hold a meeting on June 23. The members will visit the well in a body and will then drive to Marietta where, in the evening, slides of the operation will be shown and the Du Pont company will show a motion picture of the horizontal well being shot. Incidental to the daily production of the well, Mr. Ranney says that its 25 bbls. per day is equal to the combined production of 192 old vertically-drilled wells back from the outcrop.

In Ashland County, Mifflin Township, Clyde Windlen No. 1 Leroy Gongiver, Section 12, was dry in the Berea, total depth 749 feet.

Athens County, Ames Township, Traction 7, Ohio Fuel Gas Co. No. 1 Frederick Phillips made 60,000 cu. ft. of gas in Second Berea sand at 1,513-32 feet. In Lodi Township, Gibson and others No. 1 L. H. Blackwood found Maxon sand dry, total depth 970 feet.

In Holmes County, Richland Township, A. Bryan and others No. 2 H. C. Garver, Section 17, had only a small showing of gas in Berea; abandoned at 744 feet.

In Knox County, Howard Township, H. E. Perkins No. 1 Mack Miller, Lot 15, first quarter, was dry in Clinton sand, total depth 2,790 feet.

Muskingum County, Gas Producing Co. No. 2 Ernest Epply is a gas well in the Clinton sand, gauging 1,500,000 cu. ft. open flow, sand 3,955-92 feet. The well is in Section 17, Brush Creek Township.

Meigs County, Rutland Township, Roy Wright No. 1 B. E. Saxton, Section 18, is a dry hole in Maxon sand, total depth 860 feet.

Noble County, Wayne Township, in the Yoker Valley pool, the Ohio Fuel Gas Co. No. 1 W. J. James, Section 33, has an open flow of 1,150,000 cu. ft. of gas from the Berea sand at 1,527 feet.

Stark County, Lake Township, Burtner & Morgan No. 1 H. Correll, Section 33, was dry in the Clinton sand, total depth 4,677 feet.

Washington County, Fairfield Township, McKitrick & Parks Co. No. 1 Emeline Bauman, Section 1, has an open flow of 250,000 cu. ft. of gas from Salt sand at 1,038-58 feet. Liberty Township, Charles Roberts No. 1 J. P. Martin, Section 26, is a small gas well in Germantown sand at 920-68 feet. Liberty Township, DePuy Brothers bailed 65 bbls. of oil in three days from Keener sand at 1,463-65 feet, on their No. 4 Irvin Hendershot, in Section 21. In Warren Township, Vickers Oil Co. No. 7 Jacob M. Vickers, Section 32, is a 1-bbl. pumper in stray sand at 1,324-44 feet.

Lima Field

The sub-Trenton test in Henry County, Harrison Township, being drilled by McAfee and others, on the Lucy Damon farm, struck a showing of asphalt and water at 2,507-13 feet and the hole filled up 800 feet with water. The casing which was set at 2,478 feet is being pulled and the hole will be deepened wet.

In Wood County, Plain Township, Section 13, the Sun Oil Co. No. 1 H. E. Cross is approaching the top of the Trenton, drilling at 985 feet.

Ray C. Jones and others set 8-inch casing at 336 feet in the George Tehnel test in Section 9, Richland Township, Wyandot County, and are now drilling at 560 feet.

Oklahoma Fields

(Continued from Page 124)

Southern-Southwestern Areas

Ray Kyle and others No. 6 Daugherty, NW SE SW Section 17-4s-2w, Hewitt field, Carter County, was dry and abandoned at 2,310 feet, total depth, in shale.

Carl Keister No. 5 Jones, NW SW SE Section 23-1s-5w, Velma pool, Stephens County, had sand at 612-31 feet, total depth, and pumped 25 bbls. of 27-gravity oil in 24 hours.

Carter & Ring No. 15 Arm, SE SE NE Section 26-1s-5w, Stephens County, had a hole full of water and was abandoned at 758 feet, total depth.

O. P. Burnham No. 1 Daniels, NE SE NW Section 6-1s-19w, Tipton area, Jackson County, found Granite Wash at 2,362-2,610 feet, total depth 2,612 feet, and pumped 40 bbls. of oil in 24 hours.

Mudge Oil Co. No. 20 Crosbie, SE NE SW Section 23-1s-5w, Velma area, Stephens County, produced 265,000 cu. ft. of gas daily from sand at 469-91 feet, total depth.

Wichita Oils, Inc., No. 10 Noble, NE NW NW Section 28-2n-10w, Lawton area, Comanche County, pumped 4 bbls. of oil daily from Pontotoc sand at 435-456 feet.

Sinclair Prairie Oil Co. No. 18 Richards, NW SE NW Section 9-4s-3w, Healdton pool, Carter County, had Deese sand at 1,038-92 feet, total depth, and pumped 17 bbls. of oil daily.

New operations: Ray Kyle No. 7 Daugherty, SE NE SW Section 17-4s-2w, Carter County, derrick; Phillips Petroleum Co. No. 2 Farwell, SE NW NW Section 35-6-10w, Caddo County, location; Carl Keister No. 6 Jones, SW NW SE Section 23-1s-5w, Stephens County, drilling; Skelly Oil Co. No. 3 Robberson, SW NW SE Section 35-1s-5w, Stephens County, an old well deepened from 732 feet to 734 feet, shot and cleaning out; R. O. Ray and others No. 1 Rogers, SW SW SE Section 32-1n-19w, Jackson County, location.

Rocky Mountain Area

(Continued from Page 121)

Two locations were released. One of these is in the same 40 as the Big West well.

Big West Oil Co. No. 9 Dahlquist, C NW NE Sec. 28-35n-3w. R.U.; (first report).

Provel & Shea No. 2 Govt., SW NW SW Sec. 11-35n-3w. Loc.; (first report).

Fulton-Commonwealth No. 2 Thompson, SE NE SE Sec. 28-35n-3w. T.D. 1,728 ft.; rng. 5⅛-in. to D.D.

W. M. Cassidy No. 1 Phoenix, CNL NW NW Sec. 28-35n-4w. T.D. 2,325 ft.; prep. to D.D.

Coolidge & Coolidge No. 6 Shaw, NE cor. Sec. 35-36n-2w. T.D. 1,532 ft.; swb. 25 bbls. after stdg. over night.

K. C. Morton No. 1 Govt., SW SW SE Sec. 1-35n-3w. T.D. 1,813 ft. in contact; acd. 500 gal.; not tstd.

UTAH

Grand County

The Cane Creek Oil Co. test on the Cane Creek structure had a slight show of oil at 3,090 feet in light gray lime, following a show of gas at 3,080 feet through a hole full of water and is shut down until casing can be run and hole dried up. The water came in at 3,015 feet and the gas at 3,080 feet had sufficient pressure to make the water boil. This well is of particular interest because it is located only 186 feet from a well drilled in 1925 by the Midwest Exploration Co. which showed for a big producer and went wild for about six months before it could be brought under control following the destruction of the rig by fire. The oil in that well came from 2,025 feet and started an extensive wildcat play. In the offset test this horizon was cut at 2,025-58 feet, where it had a good show of 36-gravity oil, but failed to behave like the old well. H. L. Rath, geologist for the Cane Creek company, expressed the opinion that the failure to encounter commercial production at 2,025 feet was due to depletion during the period the well was out of control and to seepage of oil to the surface outside the casing for more than 11 years. A string of 6⅝-inch casing will be run as soon as it can be delivered. It has to be trucked from Thompson station to Moab and then shipped down the Colorado River by barge. The well is on a narrow ledge on the bank of the river.

Cane Creek Oil Co. No. 1 Govt., NW SW Sec. 31-26n-21e. T.D. 3,090 ft.; W.O. 6⅝-in.

North and East Texas

By
D. H. STORMONT

Bridwell Clay County Test Flows 50 Barrels Per Hour

WICHITA FALLS, Tex., May 1.—Activity in northernmost North Texas, including Montague, Cooke, Clay, and Wichita counties, and Archer County shared almost equally in development during the past week to bring the wildcatting campaign throughout the area to a new high. Four new wildcats were staked in Montague County, two of which will test further possibilities in the Nocona sand pool opened early in the year. Cooke County's rapidly developing Walnut Bend pool was promised a new and deeper producing horizon as the week closed. A possible extension and a new outpost location were reported for the new Browning pool of Clay County. A possible shallow pool opening was seen in a well drilled in northern Wichita County, while Archer County received extensions to its Hull-Silk field.

The Nocona deep Strawn-sand pool of Montague County, discovered early in January by Rogers & Rogers in No. 1 Burnett, is in line for considerable development with two new test locations made and others reported in the making. Bridwell Oil Co. has staked its No. 1 H. A. Reynolds and others in the southwest corner of Section 9, E.T. Survey. The wildcat is a proposed 4,600-foot test, about 2½ miles east and slightly north of the discovery well. The new test is on the opposite side of the town of Nocona and should production be found an extensive campaign is expected to be launched in the town itself.

Second test for the Nocona area will be Stanolind Oil & Gas Co. No. 1 W. L. Zachary. The well, a west offset to the discovery, is in the northeastern part of the J. LeNow Survey, Abstract 433. Rogers & Rogers have spudded No. 1 Benton, 660 feet north of the discovery well, on a Texas Co. farmout. Surface casing has been set and drilling was resumed over the weekend.

About 1¾ miles northeast of Bonita, and 1¼ miles southwest of the Bonita sand pool, opened early in the year, T. C. Hadley and associates staked No. 1 Braswell, 330 feet from south and east lines of the H. N. Baker Survey, Abstract 49. The test is contracted to 4,500 feet. The Bonita discovery well was completed at the 2,800-foot level.

Another wildcat for the county was reported in the S. J. Sackett and associates No. 1 Ida Wathall, staked in the east 40 acres of a 200-acre tract in the S. H. Smith Survey. Contract depth is 4,500 feet.

Clay County

Bridwell Oil Co. drilled plug in its pool opener 2 miles north of Halsell in western Clay County, and the well flowed 50 bbls. per hour. Electrical survey was made of the hole and indicated no water. Core analysis showed a 39-foot section of pay from 4,754 feet to 4,793 feet, showing 20 per cent porosity. The test is 9 miles northwest of the Browning pool opened several weeks ago by Burns No. 1 Browning.

Prospects of a second producer for the Browning pool, in the Belcher subdivision, were doubtful at this time, as Shell Oil Co., Inc., No. 1 Davis, south offset to the Burns discovery, was drilling below 4,564 feet in shale having logged only 3 feet of saturation from 4,561-64 feet.

A two-mile northwest outpost to the pool has been staked by L. T. (Bobby) Burns and the Consolidated Oil Co. The test is the No. 1 Scaling, in the southeast part of Section 6, H.T.&B. Survey, Abstract 879. Date for beginning the test has not been set.

Cooke County

A second and deeper Strawn-sand pay horizon for the Walnut Bend pool, northern Cooke County, was reported at the Sinclair Prairie Oil Co. No. 8 Best, in the southeast corner of the pool. The company drilled broken sand and sandy shale from 5,141 feet to 5,173 feet, total depth, where casing is being cemented for completion. With the regular pay in the pool at about 4,900 feet, the new producer drilled 32 feet of saturation in what has been identified as a basal section of Strawn in the Pennsylvanian or older. Some sources estimate the well capable of 300 to 400 bbls. of oil daily. Sinclair Prairie No. 7 Best, two locations north of the No. 8 Best, ran tubing and was awaiting official test. Saturation was drilled at 4,920-49 feet, total depth. The company has begun operations at No. 11 Best. No. 9 and No. 10 are below 200 feet.

Cooke County's three-well Voth pool, 2 miles south of Muenster, received another test by Whitfield, Pearson & Grimes, the pool discoverers, at No. 6 Voth, in the Fulton Survey east of the initial well. Operators are completing No. 5 Voth. Southwest of the pool, Monte Standiforth is swabbing and testing at his extension well in the Voth lands, saturation having been drilled at 1,747-53 feet.

Wichita County

A new shallow oil pool in east central Wichita County may be opened by R. A. Westbrook No. 1 L. F. Ramming, in the Henry Hastie Survey, Abstract 92, 10 miles due north of Wichita Falls. Sixteen feet of saturation was cored at 1,226-42 feet and the crew suspended operations to cement casing for a test. Top of the sand is about 100 feet higher than in the Thornberry pool 5 miles to the east, in Clay County.

New oil production in Wichita County will be sought at a location staked by John E. Farrell on the extreme west side of the K.M.A. field. The test is in the Bradley lands of the M. Gahagan Survey and is contracted to 4,000 feet.

Archer County

Another large producer in the north extension area of the Hull-Silk pool of northern Archer County was in prospect at the Thurman & Lipscomb No. 3 Wilson, Lot 1, Block 22, A.T.N.C.L. Survey. The well was shot with 140 quarts from 4,253 feet to 4,311 feet, total depth, and flowed an estimated 400 bbls. of oil into tanks in four hours. Tubing is being run for completion.

Northeast of the Hull-Silk pool and in the Ford area, Sikes No. 1 Miller, northeast of his discovery, is perforating casing for several tests at 4,300 feet and 5,337 feet. Total depth is 5,790 feet.

NORTH TEXAS COMPLETIONS

Archer County

Bridwell Oil Co. No. 1 A. J. Ikard, 1,101 feet, dry. Rathke Oil Co. No. 7 Claude Cowan, 1,125-34 feet, 10 bbls. Shappell Oil Co. No. 21 Grace Bell, 1,008-21 feet, 25 bbls. White & Duncan No. 1 G. D. Prideaux, 1,025 feet, dry.

Baylor County

J. W. Baldwin No. 1 W. B. Mills, 1,411 feet, dry.

Clay County

H. Bowers No. 11 C. J. Shumake, 1,404 feet, dry. R. C. Hart No. 3 M. A. Stephenson, 228-40 feet, 15 bbls. Kimmell Lea & Co. No. 11 Mrs. L. Firestone, 1,113-41 feet, 237 bbls. Kimmell Lea & Co. No. 12 Mrs. L. Firestone, 1,113-36 feet, 30 bbls. Metzner & Burns No. 28 L. Thornberry, abandoned location.

Cooke County

Kingery Brothers No. 2 Joe Fisher, 923-50 feet, 30 bbls. Whitfield and others No. 3 B. Voth, 1,790-94 feet, 125 bbls.

Jack County

Gunnells & Norris No. 1 W. D. Moore, 640 feet, dry. O. J. Perrin No. 3 J. S. Rhodes, 3,065-92 feet, 350 bbls.

Montague County

Seitz & Comegys No. 1 L. K. Guerin, 3,730 feet, dry. W. H. Yeargin No. 2 E. J. Bouldin and others, 794-820 feet, 10 bbls.

Wichita County

Consolidated Oil Co. Nos. 24, 25 and 26 W. P. Ferguson, abandoned locations. Petroleum Production Co. No. 1 S. George, 1,714 feet, dry. M. Staniforth No. 3 S. George, 695-704 feet, 10 bbls. Deep Oil Development Co. No. 3 R. J. Bradley, 3,663-3,792 feet, 300 bbls. Fain McGaha No. 8 E. P. Griffin B, 3,775-3,824 feet, 1,100 bbls. Fresno Oil Co. No. 25 L. F. Ramming A, 1,796 feet, junked.

Hamilton-Worsham No. 3 J. L. and T. J. Waggoner, 3,748-3,820 feet, 875 bbls. Hanlon-Buchanan, Inc., No. 9 Fassett & Tuttle B, 3,862-3,919 feet, 745 bbls. Panhandle Refining Co. No. 7-A Reilly Griffin, 3,760-3,820 feet, 552 bbls. Shell & Phillips No. 4 D. R. Preston A, 3,891-4,008 feet, 996 bbls. Sinclair Prairie No. 4 N. H. Martin, 3,680-3,809 feet, 58 bbls. O. M. Stidham No. 1 J. F. Miller, abandoned location. H. M. Sutterfield No. 2-S, J. F. Boyd, 754 feet, dry. Venmex Oil Co. of Texas No. 9-A State Lands, 3,770-3,816 feet, 1,016 bbls. Worth Oil Co. No. 6 W. J. Logan and others B, 3,765-3,863 feet, 840 bbls.

Young County

D. W. Power No. 5 J. F. Larimore, 592 feet, dry. Trentman and others No. 1 H. Breashear, 3,969-4,001 feet, 508 bbls. West & Stanford No. 1 J. Williams, 569-75 feet, 10 bbls.

EASTERN TEXAS

DALLAS, Tex., May 1.—Wildcats starting in the East Texas district more than offset four failures listed throughout the area.

Henderson County listed three new outposts spudding or preparing to start, with Dupuy Oil Co. No. 1 Cornelius, 3½ miles northwest of Stockard drilling past 2,300 feet toward the Woodbine sand. Location of the No. 1 Cornelius is in the Washburn Survey. In the Opelika area of northern Henderson County, Tide Water-Seaboard-Humble is preparing to spud its two deep tests to the lower Marine Trinity in search of oil production in that distillate field. Tests are the No. 1 Scott, 3 miles southwest of the field and the No. 1 Lewis, nearly a mile north of production.

Hill County's important deep well, Sykes & Brannan No. 1 Weatherby, 2 miles east of Hillsboro and in the Merriweather Survey is drilling below 1,700 feet toward the Trinity section. The southeast part of Hill County has a Woodbine sand wildcat starting, Abernathy & Sanders No. 1 E. F. Farrell, quarter mile north of Mount Calm, drilling past 350 feet in shale. It is in the M. Mata Survey.

Among the failures three were in McLennan County and one in Limestone County. S. A. Thompson abandoned No. 1 Nance, 5 miles southeast of Thornton, in the J. D. Brown Survey, Limestone County, at 4,832 feet. In McLennan County, Delta Drilling Co. No. 1 Hortsman, 2 miles south of McGregor, was stopped at 2,259 feet. The J. M. Russell No. 1 Lovelace, 5 miles southwest of Waco, was abandoned at 612 feet and the C. E. Porter No. 1 Burchett, just southeast of Waco, was a failure at 695 feet.

Leon County

Considerable attention was centered, as the week closed, on the Humble Oil & Refining Co. and Sun Oil Co. No. 1 Harris, north offset to the partnership's No. 1 Swift, 4-mile extension to the Navarro Crossing pool

of western Houston County. Deciding against drilling deeper, operators have bottomed the hole at 5,915 feet and casing has been run to bottom for a test through perforations of a possible pay section from 5,856-59 feet. A location east of the discovery, Humble & Sun No. 1 Polen has derrick up and rig will be moved from the No. 1 Harris.

Rowe-Baker Pool

Successful in obtaining a farmout from Humble Oil & Refining Co., Richards & Holloway, discoverers, with Tyler & Smith, of the Rowe & Baker pool in western Henderson County, were credited with plans to start two wells in the area. The farmout is the north portion of the G. E. Murphy 200-acre tract, J. Gardner Survey, which lies immediately south of the discovery well in the J. T. Childers Survey.

EAST TEXAS FIELD COMPLETIONS

(One-hour gauge)

Gregg County—Longview Area

Arkansas Fuel No. 6-A W. E. Bolton, 3,517-26 feet, 72 bbls. General American No. 4-A F. Stancil, 3,666-67 feet, 30 bbls.

Gregg County—Kilgore Area

Potter Brothers Production Co. No. 4 J. T. Butts. 3,547-80 feet, 60 bbls. Potter Brothers Production Co. No. 5 J. T. Butts, 3,546-78 feet, 65 bbls. M. W. McVey No. 4 Baptist Church, 3,540-85 feet, 10 bbls. Overton Refining Co. No. 10 I.&G.N.R.R., 3,550-68 feet, 30 bbls.

Rusk County—Kilgore Area

General American No. 20 J. E. Sexton, 3,594-3,603 feet, 5 bbls. Magnolia Petroleum Co. No. 13 Jernigan, 3,648-95 feet, 92 bbls.

Rusk County—Joiner Area

Humble Oil & Refining Co. No. 22 P. R. DeGuerin, 3,691-3,701 feet, 60 bbls. Humble Oil & Refining Co. No. 11 J. J. Pitner, 3,654-82 feet, 70 bbls.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gauge)

Grayson County

O. L. McDougal No. 1 F. E. Jackson, dry and abandoned at 564 feet.

Henderson County

Hunt & McMillian No. 2 A. R. Dillard, 3,072-3,116 feet, 114 bbls. Tyler & Smith No. 1 Rowe & Baker, 3,140-49 feet, 70 bbls.

Limestone County

S. A. Thompson No. 1 R. L. Nance, dry and abandoned at 4,832 feet.

McLennan County

Delta Drilling Co. No. 1 Hortsman, dry and abandoned at 2,259 feet. J. M. Russell No. 1 Lovelace, dry and abandoned at 612 feet. C. E. Porter No. 1 Burchett, dry and abandoned at 695 feet.

Southwest Texas Fields

(Continued from Page 113)

Calhoun-Victoria Counties

Heyser field: Gulf Oil Corp. No. 13-B Traylor, perforated casing 5,482½-83½ feet, 85 bbls. of oil and 25 bbls. of salt water, one-eighth inch choke.

Duval County

Hoffman field: Cox and others No. 3 Cuellar-Plymouth, 2,811 feet, abandoned. Cuellar Brothers No. 5 fee, sand 2,530-63 feet, 200 bbls., jetting. Magnolia Petroleum Co. No. 32 Weil, sand 2,810-20 feet, 81 bbls., pumping. Lomo Novio field: Bridwell Oil Co. No. 1 J. F. Welder, 2,871 feet, abandoned. Piedra De Lumbre field: Magnolia Petroleum Co. No. 22 Duval County Ranch Co., sand 2,110-19 feet, 300 bbls., one-half inch choke. Humble Oil & Refining Co. No. 1-E Duval County Ranch Co., sand 2,080-90 feet, 154 bbls. in 15 hours, one-quarter inch choke. Magnolia Petroleum Co. No. 23 Duval County Ranch Co., 2,655 feet, abandoned. Rancho Solo field: W. E. Butler and others No. 1 Gruy, 2,062 feet, abandoned.

Guadalupe County

Darst Creek field: Diamond Half Oil Co. No. 1 Forshage, 2,543½ feet, 44 bbls., open tubing. Nancy Lee Oil Co. No. 2 Wilson, 2,654 feet, 42 bbls., open 2-inch tubing. Texas Co. No. 4 Dowdy, 2,537 feet, 38 bbls., open tubing.

Hidalgo County

Samfordyce field: R. S. Dean No. 1 Guerra, perforated casing 2,864-68 feet, 100 bbls., jetting.

Jim Wells County

East Premont field: Magnolia Petroleum Co. No. 11 Seeligson, perforated casing 6,578-83 feet, 9½ bbls. per hour, one-eighth inch choke. South Alice field: Gorman and Yoakam No. 1 fee-Heivika, 5,389 feet, abandoned.

Live Oak County

Ramirena field: Cities Service Oil Co. No. 1 McCaslin, 6,111 feet, abandoned.

McMullen County

Ezzell field: Harry Ezzell No. 37 Ezzell, perforated casing 1,450-55 feet, 80 bbls., pumping. E. M. Jones No. 77 Ezzell, perforated casing 1,535-40 feet, 39 bbls., pumping. E. M. Jones No. 79 Ezzell, perforated casing 1,548-53 feet, 182 bbls., pumping. E. M. Jones No. 85 Ezzell, 1,518 feet, abandoned.

Medina County

Chacon Lake field: Charles Wagner No. 38-A Medina farms, 335 feet, abandoned.

Nueces County

Agua Dulce field: Union Producing Co. No. 1-B Kinsey, perforated casing 4,897-4,905 feet, 12,800,000 cu. ft. of gas. Luby field: McAlester Fuel Oil Co. No. 2 State, perofrated casing 4,332-38 feet, 107 bbls., one-eighth inch choke. Clara Driscoll field: O. W. Killam No. 1 Webb, perforated casing 5,646-53 feet, 128 bbls., one-eighth inch choke. Stanolind Oil & Gas Co. No. 4 Kampfhenke, perforated casing 3,898-3,901 feet, 19 bbls. of oil and 19 bbls. of salt water, one-eighth inch choke.

Refugio County

La Rosa field: Coronado Corp. No. 20 Rooke, perforated casing 5,890-93 feet, 152 bbls., one-eighth inch choke. Morgan Gulf Oil Corp. No. 1-A Rooke, perforated casing 5,708-14 feet, 113 bbls., one-eighth inch choke. Refugio field: Houston Oil Co. of Texas No. 63 Rooke, perforated casing 6,216-24 feet, 173 bbls., one-eighth inch choke.

San Patricio County

Paul Benedum and others No. 1 Phillips, 6,007 feet, abandoned. Houston Oil Co. No. 3-A Baldwin, perforated casing 5,610-20 feet, 229 bbls., 5/32-inch choke. Humble Oil & Refining Co. No. 1 Countiss, 5,670 feet, 124 bbls., one-eighth inch choke. Plymouth Oil Co. No. 3 Teeter, perforated casing 5,660-67 feet, 144 bbls., 7/64-inch choke. Shell Petroleum Corp. No. 2 Kirk, sand 5,612-55 feet, 123 bbls., one-eighth inch choke.

Victoria County

McFaddin field: Barnsdall Oil Co. No. 25 McFaddin, sand 4,406-14 feet, 194 bbls., three-sixteenths inch choke.

Webb County

Killam field: O'Hern and others No. 4 Garcia, 2,512 feet, abandoned.

Gulf Coast Fields

(Continued from Page 109)

the Hardin field, Woodley Petroleum Co. is rigging up for No. 1 T. C. Barrett in the Rebecca Coleman Survey. Location for another interesting southeast flank test was made by the Pure Oil Co. in the Dickinson field, Galveston County. The well is located on the Franz Kohfeldt lease in the T. W. Johnson Survey, and will be drilled to a depth below 9,000 feet.

Northeast of the Call field, Newton County, Sun Oil Co. No. 1 Peavy Moore Lumber Co. was abandoned at a sidetracked depth of 7,459 feet, after a 15-minute drillstem test at 7,412-59 feet tested two thribbles of mud and 20 thribbles of salt water.

Hamman Exploration Co. No. 1 Darrington State Prison Farm, a prospective pool opener in the Juliff area, Brazoria County, pulled tubing to core deeper, but the core barrel became stuck and the company is attempting to recover it. The hole is bottomed at 8,887 feet and the well showed some gas and oil before it went dead.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Brazoria County

Hastings field: Humble Oil & Refining Co. No. 5 Lerew, 6,050 feet, 624 bbls., quarter-inch choke. Stanolind Oil & Gas Co. No. 21 H. H. Ford, perforated casing 5,439-68 feet, 288 bbls., quarter-inch choke. Stanolind Oil & Gas Co. No. 4 McDonald, perforated casing 6,060-78 feet, 366 bbls., quarter-inch choke.

Chambers County

Barbers Hill field: Texas Gulf Producing Co. No. 8 Wilburn, 5,713 feet, 121 bbls., gas lift. Seabreeze field: Sun Oil Co. No. 4-A Hebert-Broussard, 8,486 feet, 22 bbls., 18 hours, three-sixteenths inch choke. Turtle Bay field: Stanolind Oil & Gas Co. No. 1 Lotz, perforated casing 6,547-52 feet, 346 bbls., quarter-inch choke.

Fort Bend County

Blue Ridge field: F. M. Long No. 1 Gulf-Luscher, 4,465 feet, 425 bbls., quarter-inch choke. Boling field: Mackhank Petroleum Co. No. 12-C J. R. Farmer, sand 4,637-85 feet, 452 bbls., quarter-inch choke. Thompson field: Gulf Oil Corp. No. 33 F. I. Booth, sand 3,181-3,200 feet, 53 bbls., eighth-inch choke. Humble Oil & Refining Co. No. 6 Davis, perforated casing 4,385-90 feet, 480 bbls., quarter-inch choke.

Galveston County

League City field: George Echols No. 3 Ross-Stewart, perforated casing 8,942-62 feet, 1,183 bbls., quarter-inch choke. Salt Dome Oil Corp. and others No. 2 J. H. Ross-Stewart, perforated casing 8,690-95 feet, 219 bbls., eighth-inch choke.

Harris County

Fairbanks field: Amerada-Stanolind Oil & Gas Co. No. 7 White, perforated casing 6,840-42 feet, and 6,844-46 feet, 150 bbls., eighth-inch choke. Johnston & Carlton and others No. 1 Jeter, 6,843 feet, abandoned. Stanolind Oil & Gas Co. No. 2 Fritz Look, 7,527 feet, abandoned. Friendswood field: Humble Oil & Refining Co. No. 1 John L. Jones, sand 6,076-88 feet, 117 bbls., quarter-inch choke. Humble Oil & Refining Co. No. 10 West Production Co., sand 5,430-6,044 feet, 576 bbls., quarter-inch choke.

Jefferson County

Clam Lake field: Shell Oil Co. No. 2 McFaddin and State, perforated casing 3,829-34 feet, 118 bbls., 11/64-inch choke. Lovells Lake field: Humble Oil & Refining Co. No. 2 Broussard, 7,722 feet, 72 bbls., quarter-inch choke.

Liberty County

Hardin field: Humble Oil & Refining Co. No. 11-A W. S. Patlow, 7,696 feet, gas well.

Matagorda County

Van Vleck field: Skelly Oil Co. No. 16 Cobb, sand 7,485-95 feet, 382 bbls., three-sixteenths inch choke.

Orange County

Orange field: Orange Petroleum Co. No. 1 Chesson, 5,607 feet, 131 bbls., eighth-inch choke. Red Bank Oil Co. No. 4 Michel, 5,568 feet, 92 bbls., three-sixteenths inch choke.

Polk County

Segno field: Shell Petroleum Corp. No. 1 Doucette, perforated casing 7,700-7,800 feet, 329 bbls., quarter-inch choke.

Tyler County

Spurger field: Republic Production Co. No. 19 fee, sand 7,615-71 feet, 457 bbls., quarter-inch choke.

Wharton County

Magnet field: Humble Oil & Refining Co. No. 4 H. C. Cockburn, 5,539 feet, 120 bbls., eighth-inch choke. Smith & McDannald No. 1 Limberg-Atlantic, sand 5,480-5,545 feet, 308 bbls., quarter-inch choke. Withers field: Texas Co. No. 6 Broussard, 5,546 feet, 103 bbls., eighth-inch choke. Texas Co. No. 7 Broussard, sand 5,483-5,542 feet, 123 bbls., eighth-inch choke. Texas Co. No. 29-B Pierce Estate, 5,545 feet, 120 bbls., eighth-inch choke. Texas Co. No. 58-C Pierce Estate, perforated casing 5,524-30 feet, gas well.

Michigan Field Report

By
O. C. PRESSPRICH

Important Fields Have Poor Week; Brine Makes Trouble

SAGINAW, Mich., May 1.—Possibility of legal action in an effort to end further pollution of Van Buren County lakes and streams developed during the past week as a side issue of interest to Michigan oil interests.

Milton P. Adams, engineer-secretary of Michigan's stream control commission, is seeking legal assistance in an effort to answer complaints of property owners, particularly in lake and resort sections, that waste oil and brine from the Bloomindale Township field of Van Buren County is threatening to ruin the resort business in that southwestern section of the state. Complaints charged that one popular lake already has been rendered useless for the summer resort business.

The Stream Control Commission has instructed its secretary to discuss the situation with the state attorney-general's department to consider feasibility of filing a complaint in the courts against operators in this most prominent of Michigan oil fields at the present time.

That problem developed at the end of a week which brought only routine news from the oil fields as completions and new potential production slumped sharply, although progress of drilling wells continued without letdown and the state conservation department revealed the number of new permits to drill for oil is being issued at the usual rate of between 20 and 30 a week.

There were 16 completions reported last week, but nine were dry holes, one was a fair-sized gas well, and of the six producing completions, one was hardly of commercial worth. In one instance a location was temporarily abandoned.

Nine of the completions were in Van Buren County, where extension tests in Arlington and Lawrence townships were unsuccessful. One of the three Bloomingdale Township completions was a producer while the three completions in Columbia Township were rated at 25, 200 and 600 bbls., respectively.

The closely controlled Clare County field had two successful completions, contributed 800 bbls. a day to the 1,875 bbls. a day added during the week to Michigan's potential oil output. The volume was the smallest in many weeks. Failures were listed, one each, in Allegan, Barry, Isabella and Midland counties.

The recently completed 3,000-bbl. well in Walker Township of Kent County caused a spurt in operations in that new field as during the week five new drilling permits were issued. Indications of more extensive activity in Clare County's Redding Township also were seen as five of the week's 25 new permits were for new wells there. Other permits are for nine more tests in Van Buren, four in Allegan County, and one each in Lenawee and Montcalm counties.

Allegan County

Overisel Township (4n-14w)—J. E. Drury abandoned as a dry hole the No. 1 George Lampen, N half N half SW Section 32, after drilling to a depth of 1,619 feet.

Trowbridge Township (1n-13w)—Claude Huff temporarily abandoned No. 1 Edmund Theiner, SW SE NE Section 21.

Arenac County

Clayton Township (20n-4e)—W. E. Ross added another gas producer to the Arenac field, his No. 1 Southworth, C NE NE Section 15, gauged at 10,300,000 cu. ft. a day. Completion was at 1,226 feet.

Barry County

Thornapple Township (4n-10w)—Darke Brothers abandoned No. 1 Fred O. Stokoe, SW SW SW Section 31, when the test remained dry at 1,980 feet.

Isabella County

Wise Township (16n-3w)—Turner Petroleum Corp. abandoned as dry No. 1 Milford Drake, SE SE NE Section 20, which was drilled to 3,815 feet.

Clare County

Redding Township (19n-6w)—McClanahan Oil Co. has a 200-bbl. producer after acidizing its No. 2 Clare-State, NE NW SW Section 33, which was completed at a depth of 3,887 feet. In N half NE NW Section 34, Turner Petroleum Corp. completed No. 2 Wheeler, which produced naturally at a rate of 600 bbls. a day.

Midland County

Porter Township (13n-1w)—A new effort to revive the Porter field failed as Chartiers Oil Co. abandoned as dry its No. 1 Fetters, S half NE SE Section 20. The test was abandoned at the 3,815-foot level.

Van Buren County

Arlington Township (2s-15w)—Mathew & Hosier abandoned No. 1 Henry Quackenbusch, NE NW NE Section 3, as a dry hole at 1,143 feet.

Bangor Township (2s-16w)—The Blood & Hendershott No. 2 Joe Jackson, SE NE NE Section 29, was a dry hole and abandoned at a depth of 1,054 feet.

Bloomingdale Township (1s-14w)—O. O. Borden No. 4 Katie Stewart, SW NW SE Section 7, produced at a rate of 250 bbls. a day after it was acidized. The well was completed at a depth of 1,203 feet. Clark & Johnson No. 4 Wiggins Estate, NE SW SW Section 9, was a failure, being abandoned as a dry hole at 1,226 feet. Also dry and abandoned, at 1,353 feet, was the Kermit D. Huffman No. 1 George L. Nicklos, NE NE SE Section 24.

Columbia Township (1s-15w)—Smallest of the three completions in Columbia was E. G. Thompson-J. H. Fitchett No. 1 Summy and others, SE NE NE Section 12, completed at 1,215 feet and producing 25 bbls. a day, with some water, after being treated with acid. Clapsaddle & Harris had two successful completions in Section 13, their No. 1 Locher, SW SW SW, at a total depth of 1 231 feet, was producing 600 bbls. a day after acid treatment, while their No. 1 Joe Worick, SW SW SE, was good for 200 bbls. a day after being acidized at its final depth of 1,203 feet.

Lawrence Township (3s-15w)—Temple & Lininger abandoned the No. 1 Burch, NE NE SE Section 20, which still was dry when drilling halted at 1,066 feet.

New York-Penna. Gas Fields

COUDERSPORT, Pa., May 1.—One well was completed in the New York-Pennsylvania Oriskany sand gas fields during the past week, that of Sylvania Corp. on the Harrison farm in Bingham Township, Potter County. This well, which had drilled into the sand last week, was completed at 5,285 feet with an initial open flow of 5,550,000 cu. ft. It drilled through the sand which was found at 5,265-84 feet.

Updegraff struck a gas pocket at 3,915 feet and is shut down at that point with a fishing job while drilling on the Norman Patterson farm in this township. New York State Natural Gas Co. is drilling at 4,075 feet on the Ladd estate, Penn York Gas Corp. at 1,675 feet on the William Cobb farm, and Van Gelder and others at 200 feet on the Selden Lewis farm, other operations in Bingham Township.

New Penn Development Co. is drilling at 4,918 feet on the Dunshie farm, deepest of the current Sharon Township tests. In others G. L. Cabot, Inc., is shut down at 4,703 feet on the Reva Kemp farm, New Penn Development Co. is drilling at 1,992 feet on the E. J. Davis farm, Empire Producing Co. is drilling at 2,716 feet on the Nelson Kemp farm and is rigging up on the E. D. Plants farm, Sylvania Corp. is moving in on the Dickerson farm, and Belmont Quadrangle Drilling Co. is building the rig on the Kibbeville School lot in the neighboring Oswayo Township.

Other Pennsylvania operations, all of which are in Potter County, are in Sweden Township where Evjen, Harris and others are drilling at 4,238 feet on the A. R. Mitchell farm and in Oswayo Township where Cunningham Natural Gas Co. is drilling at 4,375 feet on the F. Markey farm after drilling through the Tully at 4,189-4,241 feet.

Several New York operations neared the completion stage. New Penn Development Co. and others drilled into the Oriskany at 5,026 feet on the E. G. Cady farm, Troupsburg Township, Steuben County, and got a show gauging 657,000 feet at 5,034 feet where operations were shut down to case. Top of the Onondaga in this well was at 5,008 feet.

Two Cameron Township, Steuben County, wells also neared completion. Belmont Quadrangle Drilling Co. is running casing in its well on the Andrew Taft farm to a point 10 feet in the Onondaga which was reached at 4,168 feet, and New York State Natural Gas Co. has set and cemented casing in its test on the Herbert Thompson farm which topped the Onondaga at 4,064 feet and was drilled to 4,076 feet. In addition to these wells New Penn Development Co. is drilling at 2,986 feet on the Sylvia Allen and others farm, and G. L. Cabot. Inc., is spudding in on the Lydia Owens farm as well as holding an idle location on the Clifford Owens farm in this area.

Hanley & Bird have cemented casing in their well on the Woodward farm, one of the two Woodhull Township operations now active. Casing is set at 3,899 feet, 31 feet below the top of the Onondaga. In the other, G. L. Cabot, Inc., is drilling at 2,851 feet on the Neva Husted farm. In other Steuben County drilling, G. L. Cabot, Inc., is down 2,595 feet on the L. Highland farm and is building the rig on the Lewis Webber farm, both in Greenwood Township; Rehler and others are drilling at 315 feet on the Foster estate, Thurston Township, and New Penn-Cunningham are spudding in on the E. Walrath farm, Jasper Township.

Two wells are underway in Willing Township, Allegany County, where Cunningham Natural Gas Co. is drilling at 2,250 feet on the Martin Sweeney farm and Penn York Gas Corp. is drilling at 810 feet on the Cyrus Wilson farm, a No. 2 well.

Eastern Fields

(Continued from Page 112)

In Roane County, R. W. Healey is drilling at 1,100 feet in No. 2 G. N. Gandee; O. H. Reed and others, at 1,050 feet in No. 2 M. J. Hughes and others; Clendenin Oil & Gas Co., at 1,200 feet in the C. E. Jones test, all in Harper district. In Geary district, Clark & Koontz are drilling at 410 feet in the R. K. Ogden test.

In Wayne County, Muriel Gas Co. started drilling on the N. Stephenson and others land, Union district; Fraley Gas Co., at 2,500 feet in No. 1 V. A. Dickerson; R. J. Petry, at 1,260 feet in No. 1 R. W. Ramey; United Fuel Gas Co., shut down at 3,115 feet for shot in No. 4,829 J. R. Hussey.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Apr. 29.—Extending the South Turner Valley producting area a quarter mile to the west, Royalite Oil Co. No. 38, LSD 16, Section 8-18-2w5, finished in the Madison limestone at 7,494 feet, is rated the largest producer in the field. Flush production was estimated as high as 4,000 bbls. a day, and official test showed restricted flow through 1-inch choke of 2,660 bbls., with gas-oil ratio only 600 feet per barrel. The Alberta Conservation Board set its allowable at 567 bbls. a day.

Completion of Royalite No. 38 as a record producer is expected to stimulate drilling activity farther south and west. A. H. Mayland and associates are planning tests in LSD 2 and 7, Section 5-18-2w5. In Section 5, immediately south of Section 8, the only active test is Theo Grewer No. 1, LSD 14, about 1 mile south and a half mile west of the Royalite producer, and which has been deepened recently to 500 feet.

North Turner Valley

In North Turner Valley, Royalite No. 35, LSD 7, Section 27-20-3w5, finished 1,202 feet in the Madison at 7,375-foot depth, gave 58½ bbls. in the last hour of the official test through 1-inch choke, being a rate of 1,404 bbls. a day. The recorded flow is approximately double that of Royalite No. 29, same section, the nearest producer.

Tests in the Lime

Tests now finishing in the lime are all outpost wells. In West Central Turner Valley, East Crest Oil Co. No. 4, LSD 8, Section 6-19-2w5, west of the proven area, is below 7,647 feet after getting the Madison at 7,540 feet. It is preparing to make drill-stem test of the upper porous horizon of the lime.

In Section 31-19-2w5, Structure Gas & Oil No. 1, LSD 7, finished in February, 1931, at 5,212 feet with a small naphtha production, is deepening around 5,500 feet and will be continued to the black lime.

West of the producing area, Okalta Oil Co. No. 6, LSD 3, Section 30-18-2w5, is making swabbing test of the upper porous horizon after cementing back to 9,994 feet when water was encountered with crude in the lower lime. It looks like a fair commercial producer from the upper lime.

Recent completions have brought the aggregate crude potential of Turner Valley up to 61,703 bbls. a day through 1-inch choke. It is expected that for the time being the allowables granted new completions will be in addition to the previous field allowable of 17,500 bbls. a day.

Southern Foothills

On the Highwood-Sinclair structure southwest of Turner Valley, Green Valley Oils No. 1 Banner, LSD 6, Section 34-17-3w5, is in changing formation below 6,902 feet and is believed entering the Banff shales. The test got the Madison limestone at 5,360 feet but encountered only small shows in the lime and will probably be deepened to test the Devonian.

Border Fields

In the Barnwell area, southern Alberta, Border Petroleums No. 1, LSD 5, Section 32-19-17w4, encountered a strong gas flow, estimated 5,000,000 cu. ft. a day, at 3,251 feet in a formation later identified as the Sunburst sand. After blowing some time, it developed a considerable showing of low-gravity black crude, similar to that encountered at approximately the same depth in the Skiff field. On deepening, water was encountered after drilling through about 9 feet of sand, but it is not salt water and is believed to come from a defective shutoff at 2,508 feet. It is deepening cautiously below 3,270 feet and will be carried into the lime for a test of the Ellis. The crude showing failed to measure up to early expectations, but there is still considerable gas.

Steveville Field

In the Steveville district, east of Calgary, Anglo-Canadian Oil Co. No. 2, LSD 4, Section 14-20-11w4, is preparing to resume after cementing on top of the limestone. It got the lime at 3,252 feet and drilled 10 feet in, when a drill-pipe test showed a gas flow estimated between 3,000,000 and 5,000,000 cu. ft. a day with showings of green crude between 28 and 32 gravity. The gas flare burned more than 100 feet high. The gas is free from sulfur. The test will be drilled into the limestone, after which Anglo-Canadian No. 1, LSD 2, Section 13-21-12w5, standing cemented in the top of the lime at 3,178 feet, will be

(Continued on Page 137)

Quick Acceptance!

Because it Gave the Field What No Other Pressure Gauge Had to Offer

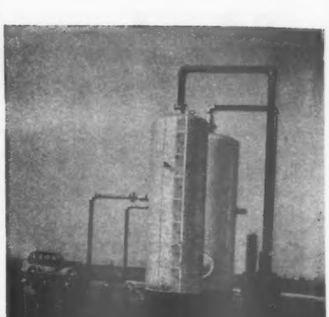
The Abercrombie Pressure Gauge has added so much to ordinary pressure gauging methods and eliminated so many of the troublesome features previously encountered that there's little wonder at its sky-rocketing popularity among operating men in so short time. Its comparative standing in South Texas fields (shown below) is a good example of how it has already out-sold all other pressure gauges combined:

Field	Rigs	Abercrombie Gauges	Other Gauges	No Gauge Being Used
Aransas Pass	36	29	2	5
East White Point	10	6	1	2
Woodsboro	7	3	3	1
Hyser	5	4	....	1
McFadden	3	3	....	....
Refugio	5	3	1	1
Goliad	1	1	....	....
Riverside	4	3	1	....
Driscoll	9	....	2	8
Luby	6	3	1	2
Clarkwood-Saxet	9	3	....	6
Turkey Creek	4	....	....	4
Flower Bluff	1	1	....	....
Alice	10	3	1	6
Laguna Madre	1	....	1	....
King	1	....	1	....
	112	62	14	36

Made in pressure ranges of 0-1000, 0-3000, 0-5000 lb. per sq. inch, for mud, water, oil, air, gas, or any liquid.

FLUID-PISTON GAUGE PUMPS
ABERCROMBIE PUMP CO.
GULF BLDG. HOUSTON TEX.

ABERCROMBIE PRESSURE GAUGE



For Separator And FLOW LINE Connections

RECTORSEAL Gives You a 100% Leak-Proof Job

RECTORSEAL applied on separator and flow line connections (threaded or flanged) assures freedom from oil and gas leaks that make unsafe, unsightly leases. RECTORSEAL conforms to expansion and contraction due to temperature changes. Flanged fittings carrying non-metallic gaskets are made seepage-proof with RECTORSEAL on all surfaces.

Buy it from your supply store in container size to meet your requirements.

RECTOR WELL EQUIPMENT CO., INC.
Headquarters: Fort Worth, Texas
Branches:
Houston, Wichita Falls, Midland, Corpus Christi, Los Angeles, Tulsa, Shreveport, Casper

RECTORSEAL
THE POSITIVE LEAK PREVENTER

DEPENDABLE
APPROVED BY UNDERWRITERS

You get a strong, bright light when you throw the switch on your Ecolite. Not only is this finer electric lantern dependable under all weather conditions, but it is also safe to use any place. Ecolite 44 U.S.V. is approved by Underwriters' Laboratories and is the choice of over 90% of all major oil companies.

Available at Supply Stores

ECOLITE
IT PIVOTS—TILTS—FOCUSES
Economy Electric Lantern Co., Inc.
325 W. Huron Street Chicago, Ill.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S. T. R.	Depth	Status—
Richfield Oil Corp., No. 1 Tinaquaic, Foxen Can., S.B.	36- 9-32	5,350	hd. sh. drlg.
Petrol Corp., No. 32-A Tognazzini, Gato Ridge, S. B.	9- 8-32	2,950	br. sh. drlg.
Arnold, E. C., No. 2 Careaga, Los Alamos, S. Barb.	8- 8-33	6,373	redrlg. 6,181
United West. Oil, No. 1 Los Olivos, Santa Barbara	16- 7-30	3,552	cleaning out
Richfield Oil, No. 1 Marcos, Sisquoc, Santa Barbara	20- 6-29	998	sd. sh. drlg.
Litho Oil, No. 1 R. I. E., Capitan, Santa Barbara	5- 4-30	2,510	sd. sh. drlg.
Oil Group, Inc., No. 1 Hyland, Summerland, S. B.	16- 4-26	1,315	idle
Glenray Oil, No. 1 Williams, Summerland, S. Barb.	1- 4-26	197	sd. sh. drlg.
Merchants Pet., No. 8 Hillside, Sespe, Ventura	1- 4-20	1,880	O.S. drlg.
Ivers, H. A., No. 14 Kentuck, Sespe, Ventura	1- 4-20	1,290	sd. sh. drlg.
Section 20 Oil, No. 21, Sespe, Ventura	20- 5-19	2,660	sd. sh. drlg.
English, J. A., No. 1 Lankershim, Hopper Can., Vent.	13- 4-19	418	sd. sh. drlg.
Shomy Oil, No. 1 Hill, Bardsdale, Ventura	32- 4-19	701	sd. sh. drlg.
Galveston Oil, No. 1 Basola, Bardsdale, Ventura	5- 3-19	928	sd. sh. drlg.
Texas Co., No. 137 Shiells, Shiells Canyon, Ventura	4- 3-19	992	sd. sh. drlg.
El Rancho Oil, No. 3 Elkins, Shiells Canyon, Vent.	9- 3-19	494	sd. sh. drlg.
Continental Oil, No. 11 Grubb, San Miguelito, Vent.	24- 3-24	4,187	sd. sh. drlg.
C. C. M. Oil, No. 7-A Hobson, Padre Canyon, Vent.	15- 3-24	5,750	O.S. drlg.
C. C. M. Oil, No. 27-B Hobson, Rincon, Ventura	16- 3-24	2,798	sd. sh. drlg.
Tide Water A. O., No. 34 V.L.W., Vent. Ave., Vent.	24- 3-23	3,294	sd. sh. drlg.
Tide Water A. O., No. 40 V.L.W., Vent. Ave., Vent.	25- 3-23	9,665	O.S. drlg.
Tide Water A. O., No. 14 McGonigle, Vent. Ave., Vent	23- 3-23	7,570	hd. sh. drlg.
Tide Water A. O., No. 77 Lloyd, Vent. Ave., Vent.	27- 3-23	9,530	O.S. drlg.
Tide Water A. O., No. 123 Lloyd, Vent. Ave., Vent.	27- 3-23	8,365	sd. sh. drlg.
Tide Water A. O., No. 124 Lloyd, Vent. Ave., Vent.	23- 3-23	6,994	sd. sh. drlg.
Tide Water A. O., No. 8 Hartman, Vent. Ave., Vent.	22- 3-23	7,946	sd. sh. drlg.
Shell Oil, No. 98 Taylor, Ventura Ave., Ventura	21- 3-23	8,235	O.S. drlg.
Shell Oil, No. 99 Taylor, Ventura Ave., Vent.	29- 3-23	900	sd. sh. drlg.
Shell Oil, No. 33 Edison, Ventura Ave., Vent.	28- 3-23	8,290	O.S. drlg.
Brit. Amer. Oil, No. 7 Bolsa, Ventura Ava., Vent.	22- 3-23	7,899	fish reamer
Alliance Pet., No. 3 Hisey, Ventura Ave., Ventura	21- 3-23	8,520	flow 1,500 b.d.
Lloyd Corp., No. 2 Dabney, Ventura Ave., Ventura	23- 3-23	9,813	redrlg. 8,368
Luxton, W. L., No. 1 Herzog, Devil's Den, Kern	27-25-18	730	idle
Time Pet., No. 1 Hills, Lost Hills, Kern	12-26-20	148	sd. sh. drlg.
Belridge Oil, No. 35-38, North Belridge, Kern	35-27-20	4,992	sd. sh. drlg.
Belridge Oil, No. 36-39, North Belridge, Kern	36-27-20	8,205	O.S. drlg.
Belridge Oil, No. 28-16, North Belridge, Kern	28-27-20	7,296	br. sh. drlg.
Tide Water A. O., No. 23-3, North Belridge, Kern	22-27-20	8,510	flow 1,870 b.d.
Richfield Oil, No. 3 Belridge, North Belridge, Kern	22-27-20	7,569	P.B. 5,610
Honolulu Consd., No. 63 Michelssen, Belridge, Kern	14-28-20	1,832	P.B. 1,425
Atlas Pet., No. 1 Moore, Delano, Kern	7-25-25	3,472	sd. sh. drlg.
Dilamar Oil, No. 3 Quinn, Jasmin, Kern	15-25-27	2,902	O.S. drlg.
C. C. M. Oil, No. 1 Rufener, Round Mountain, Kern	2-29-29	2,038	gr. sd. drlg.
Grizzly Bear Oil, No. 2 Kelley, Round Mt., Kern	6-28-29	1,705	O.S. drlg.
Crestmont Oil, No. 1 Coffee, Round Mountain, Kern	8-28-29	1,420	bailing
Combs Bros., No. 2 Kern, Kern River, Kern	28-28-28	406	O.S. drlg.
D. B. K. Co., No. 3 Kern, Kern River, Kern	34-28-28	475	pump 12 b.d.
Italo Pet., No. 1 Judkins, Kern River, Kern	19-28-28	1,286	P.B. 1,215
Little & Gilstrap, No. 2 Keating, Premier, Kern	20-27-27	1,891	sd. sh. drlg.
Wright & Eyer, No. 1 Dome, Mount Poso, Kern	28-26-28	984	sd. sh. drlg.
Ring Oil, No. 4 Rogers-Jones, Mount Poso, Kern	29-26-28	1,773	pump 385 b.d.
Ring Oil, No. 8 Bowlegs, Mount Poso, Kern	29-26-28	1,816	O.S. drlg.
Texas Co., No. 1 Jewett, Arvin, Kern	16-31-29	3,955	sd. sh. drlg.
Universal Consd., No. 1 Derby, Arvin, Kern	15-31-29	3,997	sd. sh. drlg.
Western Gulf Oil, No. 1 Bellevue, Fruitvale, Kern	34-29-27	3,750	sd. sh. drlg.
Smith, H. G., No. 1 Galtes, Fruitvale, Kern	14-29-27	123	sd. sh. drlg.
Standard Oil, No. 8-2-B, KCL, Wasco, Kern	17-27-24	13,107	sd. sh. drlg.
Union Oil, No. 1-36, KCL, Shafter, Kern	36-27-24	12,814	sd. sh. drlg.
Cal. Expl., No. 1 Dougherty-Salisbury, Butnw., Kern	7-29-24	12,918	hd. sd. drlg.
General Pet., No. 2 Van Ness, Rio Bravo, Kern	2-29-25	8,298	sd. sh. drlg.
Union Oil, No. 8-34, KCL, Rio Bravo, Kern	34-28-25	9,650	sd. sh. drlg.
Superior Oil, No. 1 Moodie, Rio Bravo, Kern	26-28-25	9,793	sd. sh. drlg.
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	11,900	fish D.P.
Standard Oil, No. 11-16, KCL, Greeley, Kern	20-29-26	11,427	cmtd. 11,415
Standard Oil, No. 11-17, KCL, Greeley, Kern	18-29-26	11,373	sd. sh. drlg.
Standard Oil, No. 12-6, KCL, Greeley, Kern	30-29-26	10,550	hd. sh. drlg.
Standard Oil, No. 1 Elrich, Greeley, Kern	20-29-26	13,535	gr. sd.; abd.
Continental Oil, No. 2-D, KCL, Bellvue, Kern	14-30-26	4,782	sd. sh. drlg.
Shell Oil, No. 2-28-B, KCL, Ten Section, Kern	28-30-26	8,220	O.S. drlg.
Shell Oil, No. 36-14-A, KCL, Canal, Kern	14-30-25	5,590	sd. sh. drlg.
Shell Oil, No. 87-4-B, KCL, Canal, Kern	4-30-25	13,750	sd. sh. drlg.
Tide Water A. O., No. 35-E, KCL, North Canal, Kern	7-30-26	6,673	sd. sh. drlg.
Ohio Oil, No. 11-E, KCL, Canal, Kern	14-30-25	8,300	flow 1,575 b.d.
Richfield Oil, No. 14-3-B, KCL, Tupman, Kern	3-31-25	4,891	sd. sh. drlg.
Standard Oil, No. 21-1, KCL, Tupman, Kern	19-30-25	4,980	sd. sh. drlg.
Tide Water A. O., No. 61, KCL, Coles Levee, Kern	14-31-25	7,892	sd. sh. drlg.
Standard Oil, No. 20-1, KCL, Coles Levee, Kern	9-31-25	8,756	sd. sh. drlg.
Ohio Oil, No. 2-F, KCL, Coles Levee, Kern	10-31-25	9,917	P.B. 9,780
Premier-Padran Oil, No. 1 Sunset, Mid.-Sunset, Kern	25-32-23	1,737	pump water
Vista Grande Oil, No. 1 Schultz, Mid.-Sunset, Kern	36-32-23	3,630	cleaning out
Van Fleet & Durkee, No. 3 Hoyst, Mid.-Sunset, Kern	36-32-23	2,698	br. sh. drlg.
General Pet., No. 1 B.V.A., Midway-Sunset, Kern	1-32-24	3,291	sd. sh. drlg.
Gates, F. E., No. 2 Laymance, McKittrick, Kern	20-30-22	590	sd. sh. drlg.
Robertson, E. D., No. 1 Smith, McKittrick, Kern	13-30-21	512	sd. sh. drlg.
Richfield Oil, No. 1 KCL, Wheeler Ridge, Kern	28-11-20	9,996	sd. sh. drlg.
Shell Oil, No. 8-32-1-A, KCL, San Emidio, Kern	32-11-22	4,790	sd. sh. drlg.
Shell Oil, No. 48-30 Port Costa, Turk, Fresno	30-17-16	6,187	sd. sh. drlg.
Foreign Oil, No. 6 Annex, W. Coalinga, Fresno	6-21-15	2,540	pump 15 b.d.
Stuart Oil, No. 1 Hill, W. Coalinga, Fresno	12-21-14	1,410	cleaning out
Tyler & Cornwell, No. 4 Tyler, W. Coalinga, Fresno	14-20-14	302	P.B. 280
Raco Oil, No. 1 Smith, W. Coalinga, Fresno	3-20-14	952	sd. sh. drlg.
Rylatt, Harry, No. 3 Kipling, W. Coalinga, Fresno	26-20-14	1,310	idle
Amerada Pet., No. 7-17 S.P.L., N. Coalinga, Fresno	17-19-16	8,237	flow 2,500 b.d.
Petseahon, No. 31-7-F, S.E. Coalinga, Fresno	7-20-16	6,790	O.S. drlg.
Petseahon, No. 62-7-F, S.E. Coalinga, Fresno	7-20-16	6,990	sd. sh. drlg.
Petseahon, No. 3-18-F, S.E. Coalinga, Fresno	18-20-16	6,584	sd. sh. drlg.
Texas Co., No. 1 Exeter fee, S.E. Coalinga, Fresno	6-20-16	7,040	sd. sh. drlg.
Standard Oil, No. 73-13-C fee, S.E. Coalinga, Fresno	13-20-15	6,620	sd. sh. drlg.
Superior Oil, No. 6 fee, S.E. Coalinga, Fresno	7-20-16	6,181	sd. sh. drlg.
Superior Oil, No. 2 Cagle, S.E. Coalinga, Fresno	6-20-16	4,690	sd. sh. drlg.
K. N. D. A., No. 54-24-H, Kettleman North, Fresno	24-21-16	10,807	cmtd. 10,790
K. N. D. A., No. 47-16-Q, Kettleman North, Kings	16-22-18	7,855	C.P. 7,706
K. N. D. A., No. 4-18-Q, Kettleman North, Kings	18-22-18	6,580	br. sh. drlg.
K. N. D. A., No. 2-20-Q, Kettleman North, Kings	20-22-18	3,995	sd. sh. drlg.
K. N. D. A., No. 6-22-Q, Kettleman North, Kings	22-22-18	7,960	sd. sh. drlg.
K. N. D. A., No. 58-22-Q, Kettleman North, Kings	22-22-18	5,450	br. sh. drlg.
Standard Oil, No. 61-11-P, Kettleman North, Kings	11-22-17	7,666	sd. sh. drlg.
Standard Oil, No. 87-7-Q, Kettleman North, Kings	7-22-18	2,687	sd. sh. drlg.
Standard Oil, No. 52-17-Q, Kettleman North, Kings	17-22-18	5,990	br. sh. drlg.
Standard Oil, No. 74-17-Q, Kettleman North, Kings	17-22-18	7,150	recmtd. 6,935
Standard Oil, No. 85-17-Q, Kettleman North, Kings	17-22-18	1,998	sd. sh. drlg.
Standard Oil, No. 81-19-Q, Kettleman North, Kings	19-22-18	6,694	br. sh. drlg.
Standard Oil, No. 41-21-Q, Kettleman North, Kings	21-22-18	6,970	hd. sh. drlg.
Standard Oil, No. 72-21-Q, Kettleman North, Kings	21-22-18	5,374	sd. sh. drlg.
Standard Oil, No. 83-21-Q, Kettleman North, Kings	21-22-18	7,164	cmtd. 7,147
Cal. Pet. Prod., No. 1 Irons, Cuyama, San L. Obispo	19-10-24	2,201	sd. sh. drlg.
Newton, S. M., No. 1 Stafford, Panorama, S. L. Obis.	18-21-21	2,364	sd. sh. drlg.
Texas Co., No. 1 Arroyo Seco, Greenfield, Monterey	11-19- 5	3,151	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S. T. R.	Depth	Status—
A. B. C. Oil, No. 1 Angelich, Torrance, Los Angeles	23- 4-14	5,200	redrlg. 5,165
Calusa Oil, No. 1 Starkey, Torrance, Los Angeles	23- 4-14	5,165	O.S. drlg.
Deep Hope Drlg., No. 2 Kovell, Torrance, L. A.	23- 4-14	5,217	P.B. 4,975
F. S. D. Oil, No. 1 Willacy, Torrance, Los Angeles	23- 4-14	4,861	sd. sh. drlg.
Greenspun System, Inc., No. 1 Miller, Torrance, L.A.	23- 4-14	5,169	flow 294 b.d.
King Pet., No. 1 Port, Torrance, Los Angeles	23- 4-14	5,198	dry; abd.
Lebow-McNee Oil, No. 2-B Kettler, Torrance, L. A.	23- 4-14	5,148	flow 710 b.d.
Lone Star Drlg., No. 2 Pestor, Torrance, L. A.	23- 4-14	5,098	O.S. drlg.
McCaslin, W. E., No. 1 Robertson, Torrance, L. A.	23- 4-14	5,167	pump 155 b.d.
Mooschekian Bros., No. 1 Schultz, Torrance, L. A.	23- 4-14	5,170	flow 140 b.d.
Packard Oil, No. 1 Louden, Torrance, Los Angeles	23- 4-14	288	sd. sh. drlg.
Packard Oil, No. 1 Pollard, Torrance, Los Angeles	23- 4-14	5,138	rig to pump
Plymouth Oil, No. 3 Lomita, Torrance, Los Angeles	23- 4-14	5,155	rig to pump
Riviera Pet., No. 1 B. & G., Torrance, Los Angeles	26- 4-14	5,369	dry; abd.
Standard Oil, No. 1-11 Marble, Torrance, L. A.	22- 4-14	3,825	redrlg. 2,862
Shadle Pet., No. 1 Kettler, Torrance, Los Angeles	23- 4-14	5,160	P.B. 5,090
Vesta Pet., No. 2 Bruhn, Torrance, Los Angeles	23- 4-14	5,155	O.S. drlg.
C. C. M. O. Co., No. 49 Lomita, Torrance, L. A.	15- 4-14	5,000	sd. sh. drlg.
C. C. M. O. Co., No. 12 Kettler, Torrance, L. A.	14- 4-14	3,825	rigged up
General Pet., No. 7 Poggi, Harbor City, L. A.	23- 4-14	3,800	redrlg. 3,751

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill stem test.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., owell drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing)
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C., or W.O.C.S., waiting on cement to set.
W.O.O., waiting for orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Texas Co., No. 5 Oakley, Harbor City, Los Angeles	30-	4-13	5,241	flow 355 b.d.
Union Oil, No. 67 Callender, Dominguez, L. A.	33-	3-13	7,799	sd. sh. drlg.
Union Oil, No. 68 Callender, Dominguez, L. A.	33-	3-13	3,451	sd. sh. drlg.
Union Oil, No. 11 Carson, Dominguez, Los Angeles	33-	3-13	8,608	O.S. drlg.
Shell Oil, No. 27-A Reyes, Dominguez, Los Angeles	34-	3-13	4,211	sd. sh. drlg.
Shell Oil, No. 98 Reyes, Dominguez, Los Angeles ..	33-	3-13	2,268	sd. sh. drlg.
Universal Consd., No. 15 Trust, Rosecrans, L. A. ..	18-	3-13	7,520	sd. sh. drlg.
Royalty Ser. Corp., No. 3 Gordon, Rosecrans, L. A.	19-	3-13	7,835	redrlg. 7,680
Bankline Oil, No. 1 Kirby, Rosecrans, Los Angeles	19-	3-13	7,653	redrlg. 5,830
Howard Oil, No. 1 H. O., Rosecrans, Los Angeles .	20-	3-13	5,291	deepening
Wilshire Oil, No. 1 Leitch, Rosecrans, Los Angeles	19-	3-13	3,360	sd. sh. drlg.
Marion, J. H., No. 2 Athens, Rosecrans, Los Angeles	19-	3-13	5,874	sd. sh. drlg.
Basin Oil, No. 4 Club, Potrero, Los Angeles	34-	2-14	6,082	flow 250 b.d.
Beloil Corp., No. 1 Castleberry, Potrero, Los Angeles	28-	2-14	5,450	will redrl.
Standard Oil, No. 1 Ward, Aliso Canyon, L. A. ...	27-	3-16	5,570	sd. sh. drlg.
Union Oil, No. 1-27 Orcutt, Aliso Canyon, L. A. ...	27-	3-16	5,089	sd. sh. drlg.
Mangrum & Page, No. 1 Lintz, Newhall, Los Angeles	4-	3-15	400	sd. sh. drlg.
O'Donnell, J. E., No. 1 Hammond, Newhall, L. A. ..	8-	3-16	4,360	deepening
General Pet., No. 48 Harbor, Wilmington, L. A. ...	2-	5-13	2,642	sd. sh. drlg.
General Pet., No. 15 S.P., Wilmington, Los Angeles	2-	5-13	4,060	O.S. drlg.
Allied Pet., No. 32 Harbor, Wilmington, Los Angeles	35-	4-13	3,119	cmtd. 3,119
F. A. Pet., No. 1 Franco, Wilmington, Los Angeles	29-	4-13	3,725	pump 120 b.d.
Hollywood Oil, No. 6 Baxter, Wilmington, L. A. ..	35-	4-13	2,760	sd. sh. drlg.
Padreson Oil, No. 55-2-D Harbor, Wilmington, L. A.	32-	4-13	3,670	O.S. drlg.
Signal O. & G., No. 1 Allen, Wilmington, L. A. ..	2-	5-13	4,330	cleaning out
Signal O. & G., No. 1-C.D., Newport, Wilming'n, L.A.	2-	5-13	2,637	sd. sh. drlg.
Signal O. & G., No. 2-C.D., Newport, Wilming'n, L.A.	2-	5-13	2,471	sd. sh. drlg.
Superior Oil, No. 1 Seaside, Wilmington, L. A.	2-	5-13	4,087	deepening
Union Pacific R. R., No. 105, Wilmington, L. A. ...	34-	4-13	4,011	flow 1,170 b.d.
Union Pacific R. R., No. 106, Wilmington, L. A. ...	34-	4-13	2,630	sd. sh. drlg.
Union Pacific R. R., No. 15-E, Wilmington, L. A. ..	34-	4-13	3,244	sd. sh. drlg.
Ridge Oil, No. 1 Club, Montebello, Los Angeles ...	3-	2-12	5,390	sd. sh. drlg.
St. Helens Pet., No. 30 Monterey, Montebello, L. A.	2-	2-12	7,275	flow 688 b.d.
St. Helens Pet., No. 2 Eggleston, Montebello, L. A.	2-	2-12	6,960	O.S. drlg.
St. Helens Pet., No. 2 Taylor, Montebello, L. A. ...	2-	2-12	6,250	will deepen
Standard Oil, No. 3 Braun, Montebello, Los Angeles	2-	2-12	7,028	deepening
Standard Oil, No. 4 Harvey, Montebello, Los Angeles	2-	2-12	6,673	milling 6,330
Standard Oil, No. 5 Whitehead, Montebello, L. A. ..	3-	2- 2	6,880	hd. sd. drlg.
Standard Oil, No. 6 Whitehead, Montebello, L. A. ..	3-	2-12	4,897	sd. sh. drlg.
Union Oil, No. 2 Wilcox, Montebello, Los Angeles .	2-	2-12	7,160	sd. sh. drlg.
Union Oil, No. 2 Howard & Smith, Montebello, L. A.	2-	2-12	5,513	will deepen
Union Oil, No. 5 Howard & Smith, Montbeello, L. A.	2-	2-12	3,260	sd. sh. drlg.
Stanley Oil, No. 1 Montebello, Montebello, L. A. ..	2-	2-12	7,010	redrlg. 4,396
Mont. Reservoir Oil, No. 2 Water, Montebello, L. A.	2-	2-12	5,481	sd. sh. drlg.
Texas Co., No. 5 Mulholland, Montebello, L. A. ...	2-	2-12	7,202	completing
Traders Oil, No. 1 Extension, Montebello, L. A. ...	2-	2-12	6,460	sd. sh. drlg.
Graham & Loftus, No. 1 Coffman, Montebello, L. A.	2-	2-12	7,518	O.S. drlg.
V-8 Oil, No. 1 M.B., Montebello, Los Angeles	2-	2-12	6,778	sd. sh. drlg.
Vulcan Oil, No. 1 Calkins, Montebello, Los Angeles	11-	2-12	6,689	flow 350 b.d.
Wood-Callahan Oil, No. 1 Harris, Montebello, L. A..	2-	2-12	7,525	sd. sh. drlg.
Bush Oil, No. 1 Olds, Montebello, Los Angeles	3-	2-12	6,500	sd. sh. drlg.
Herley-Kelly, Inc., No. 2 Masser, Montebello, L. A..	2-	2-12	3,197	sd. sh. drlg.
Partridge, C. W., No. 1 Hillside, Whittier, L. A.	22-	2-11	1,781	pump water
H. & C. Oil, No. 1 Joyce, Whittier, Los Angeles ...	22-	2-11	3,691	idle
Richfield Oil, No. 1 Richville, N. L. Beach, Orange	17-	4-12	6,398	sd. sh. drlg.
Standard Oil, No. 68 Emery, W. Coyote, Orange ...	24-	3-11	5,820	sd. sh. drlg.
Southwest Expl., No. 15 State, Hunt. Beach, Orange	10-	6-11	4,191	cmtd. 4,125
Southwest Expl., No. 18 State, Hunt. Beach, Orange	10-	6-11	2,998	sd. sh. drlg.
Patos Drlg., No. 1 Graham, Sunset Beach, Orange .	21-	5-11	6,693	dry; abd.
Union Oil, No. 1 Nieto, Seal Beach, Orange	12-	5-12	6,000	sd. sh. drlg.

OKLAHOMA

Week Ending April 29

NORTHERN OKLAHOMA

Atoka County

Giblett No. 1 Rich, SE SE SW Sec. 2-1-12. S.D. 728 ft.

Cleveland County

Nels Burton No. 1 Boggs, NE NE SE Sec. 16-9-2w. Drlg. 3,220 ft.

Nels-Burrton No. 1 Hirsch, NW NW NE Sec. 17-9-2w. O.W.P.B.; O.T.D. 7,692 ft.; T.D. 7,695 ft.; S.D.

Comanche County

Mid Night Oil No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; T.D. 773 ft.; tstg.

Ed Parsons No. 1 Stephens, C NW SW Sec. 29-4-9w. T.D. 314 ft.; abd.

Richards & Richards No. 1 Anderson, NE NW SE Sec. 30-4-11w. T.D. 958 ft.; S.D.

Creek County

Burke-Greis No. 1 Vanderslice, NE NE SE Sec. 30-14-7. 7-in. 2,840 ft.; est. 2,500,000 cu. ft. gas; no oil.

Ellis County

Enterprize Drlg. Co. No. 1 Wahl, SE NW NW Sec. 1-19-25w. T.D. 575 ft.; S.D.

Garfield County

Continental Oil Co. No. 1 Luediman, C SW SE Sec. 2-21-4w. Miss. 5,616 ft.; T.D. 5,645 ft.; D.&A.

Hughes Drlg. Co. No. 1 Misener, C NE NW Sec. 10-20-4w. 2nd Wlx. 5,915 ft.; T.D. 5,944 ft.; F. 95 B.O. in 24 hrs.; tstg.

Kerlyn Oil Co. No. 1 Hein, NW NW NW Sec. 36-22-4w. Drlg.

Garvin County

Ker-Lyn Oil Co. No. 1 Butterly, NE NE SE Sec. 22-1-1. O.W.D.D.; O.T.D. 3,205 ft.; drlg. 4,682 ft.

Grady County

Carter Oil Co. et al No. 1 Smith C-58, C SE SW Sec. 26-5-8w. S.S.O. 5,329-58 ft.; S.O. 5,433 ft.; cd. 5,964-76 ft.; rec. sh.; cd. 6,351-76 ft.; rec. hd. sd.; T.D. 6,613 ft.; perf. and gaged. 13,180,000 cu. ft. gas; S.I.

Ed Parsons No. 1 McKenney, SE SE SW Sec. 30-3-8w. T.D. 6,030 ft.; no shows; D.&A.

Grant County

Carter Oil No. 1 Staggers, C W½ SE NW Sec. 4-25-3w. Drlg. 2,290 ft.

Kerlyn Oil No. 1 Hein, NW NW NW Sec. 36-22-4w. T.D. 310 ft.; R.U.R.

Harper County

Sinclair Prairie No. 1 George, SW SW SW Sec. 5-27-23w. S.D. 475 ft.; reprs.

Hughes County

Carter Oil No. 1 Hamilton, C W½ NE SW Sec. 33-4-9. T.D. 4,235 ft.; tstg. gas sd.

Skelton et al No. 1 Gilmore, C N½ NE SE Sec. 7-5-9. S.D. 970 ft.

Jackson County

English & Morgan No. 1 Lee, NW NW SE Sec. 36-2-19w. W.O.C. 1,320 ft.

Kay County

Cooper Drlg. Co. No. 1 Caughlin, SE NE SW Sec. 30-25-1. Drlg. 4,390 ft.

Crawford No. 1 Bethel, SE SE NW Sec. 34-27-2w. T.D. 1,040 ft.; S.D.

Kingfisher County

K. A. Ellison No. 1 Baker, NE NE SE Sec. 20-19-5w. Miss. 6,290 ft.; T.D. 6,920 ft.; fsg. D.P.

Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Miss. 7,014 ft.; Woodford 7,531 ft.; Misener 7,562 ft.; Wlx. 8,105 ft.; 2nd Wlx. 8,275 ft.; drlg. 8,320 ft.

Kiowa County

C. J. Hagerling No. 1 Kimray, SW SW NW Sec. 36-5-18w. S.D. 750 ft.

Pure Oil Co. No. 1 Fuqua, SW SW NE Sec. 18-6-16w. Drlg. 1,140 ft.

Wichita Oil, Inc., No. 1 Mace, SW SW SW Sec. 11-5-15w. T.D. 127 ft.; S.D.

Lincoln County

Helmerich & Payne No. 1 Johnson, SE SE SE Sec. 2-15-1. W.O. tools.

McIntosh County

Scruggs et al No. 1 Lanning, SE SW SW Sec. 19-12-15. Spd.

Muskogee County

Petroleum No. 1 Scott, SE SW SW Sec. 14-13-19. Mch.

Okfuskee County

Carter & Hight No. 1 Rogers, SW SW SW Sec. 6-13-8. T.D. 2,850 ft.; P.B. 2,498 ft.; P. 105 B.O. in 8 hrs.; P.O.P.

Oklahoma County

R. Olsen No. 1 White, C NE NE Sec. 30-11-1. Vio. 6,338 ft.; dolo. 6,410 ft.; Wlx. 6,503 ft.; 2nd Wlx. 6,610 ft.; T. D. 6,636 ft.; F. 250 B.O. in 24 hrs.; cut 28%.

O. A. Walters No. 1 Olmstead, C E½ SE NW Sec. 12-14-3w. Drlg. 5,830 ft.

Okmulgee County

Jim Wise Drlg. Co. No. 1 Morrow, SW NW NE Sec. 16-15-13. 3,000,000 cu. ft. gas 1,930-38 ft.; decreased to 1,000,000 cu. ft. at 1,985 ft.; T.D. 1,985 ft.; S.D.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1-21-5. S.D. 2,210 ft.; C.O. 2,110 ft.

Pittsburg County

Phillips Pet. Co. No. 1 Hubacker, C NW NE Sec. 11-7-15. Dutcher 5,973 ft.; drlg. sh. 6,920 ft.

Pontotoc County

Union Dev. Co. No. 1-A Abbott, SW NW NE Sec. 34-3-6. S.D. 4,100 ft.

L. Walker No. 1 King, SW SE NW Sec. 5-4-7. T.D. 1,085 ft., sd.; S.S.O.; S.D.

Pottawatomie County

F. W. Cooper No. 1 Strawn, SE SE SW Sec. 32-8-5. Drlg.

John Dickson No. 1 La Reau, NE NE SW Sec. 33-6-3. Drlg. 3,285 ft.

Sequoyah County

Thompson Brs. No. 1 Ruby, NW NW NE Sec. 30-12-22. Drlg. 1,300 ft.

Seminole County

Atlantic Ref. Co. No. 1 Jimmey, SE NW NE Sec. 21-7-6. T.D. 4,417 ft.; swb. 516 B.O. in 16 hrs.; P.O.P.

J. G. Buell No. 1 Madgett, SE SW SE Sec. 15-10-5. Drlg. 1,687 ft.

W. C. Wood No. 1 Aldridge, SW NW NE Sec. 5-8-8. T.D. 1,910 ft.; H.F.W.; S. D.O.

Woodson Oil No. 1 Goodrich, NE SW SE Sec. 14-5-5. Drlg. 605 ft.

Stephens County

Phillips Pet. Co. No. 1 Culbertson, NW NW SE Sec. 4-1-5w. T.D. 5,620 ft.; F. 189 B.O. in 24 hrs.; C.O.

Texas County

Republic Nat. Gas Co. No. 1 Dulabohn, C Sec. 21-6n-15ecm. Drlg. 2,365 ft.

Republic Nat. Gas Co. No. 1 Judd, CSL SW Sec. 24-6n-15ecm. T.D. 2,870 ft.; gas 7,100,000 cu. ft.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. Drlg. 11,135 ft.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,190 ft.; recvd. tools; drlg. cmt.

SOUTHERN OKLAHOMA

Carter County

Pure Oil Co. No. 1 Noble, NE SE Sec. 35-3s-1e. Drlg. L. 7,626 ft.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. T.D. 1,435 ft.; U.R. 8-in.

Jefferson County

H. W. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. W.O.C. 102 ft.

Marshall County

Hughes et al No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; T.D. 7,110 ft.; drlg. by 8-in. 880 ft.

Tillman County

Paul Helf No. 1 Brisley, NE NE NE Sec. 22-1s-19w. T.D. 3,515 ft.; S.D.O.

KANSAS

Week Ending April 29 (Descriptions are East unless marked otherwise)

Barber County

Barbara Oil Co. No. 1 Wilson, C SE Sec. 17-33-13. Arb. 5,180-89 ft.; S. W.; to P.B.

Barton County

Amerada Pet. Corp. No. 1 Dagleman, C NE NE Sec. 23-19-15w. Drlg.

B. B. & M. No. 1 Dupont, SE SE NE Sec. 21-19-11w. U.R. 8-in. 2,230 ft.

Crown Pet. No. 1 Koch, NE NE NE Sec. 23-20-12w. U.R. 2,137 ft.; T.D.

R. E. Day et al No. 1 Feltes, SE SE NE Sec. 14-16-12w. O.W.D.D.; S.S.O. 2,954-62 ft.; Lans. 3,050 ft.; S.D. 3,052 ft.

Long & Johnson No. 1 Eveleigh, SW SW NE Sec. 3-18-14w. Lans. 3,100 ft.; Arb. 3,338 ft.; T.D. 3,371 ft.; S.D.O.

I. W. Murfin No. 1 Birzer, NE SW Sec. 21-19-11w. Pay 3,130 ft. and 3,152-54 ft.; drlg. 3,344 ft.

J. C. Shaffer No. 1 Hitchman, SW SW NE Sec. 29-16-12w. Lans. 3,160 ft.; Arb. 3,425 ft.; T.D. 3,465 ft.; D.&A.

Transwestern Oil No. 1 Ney, SW SW SE Sec. 8-16-11w. Arb. 3,319 ft.; S.O.&W.; T.D. 3,359 ft.; D.&A.

Butler County

C. L. Carlock et al No. 1 Hartenbower, NW NW NW Sec. 16-29-6. Arb. 3,249 ft.; T.D. 3,257 ft.; H.F.W.; D.&A.

Simpson Oil Co. No. 1 Evans, CSL SW Sec. 21-28-7. Drlg. 2,145 ft.

Chase County

Alex McCoy No. 1 Berns, SE NW NE Sec. 29-22-6. Drlg. 600 ft.

Cowley County

C. L. Carlock No. 1 Shaffer, SW SE SW Sec. 3-31-4. Drlg. 3,000 ft.

Lloyd, Frost & Study No. 1 Chamness, NE NE SW Sec. 35-30-3. Drlg. 2,010 ft.

Ben Gralapp et al No. 1-A Clark, NW NW NE Sec. 11-31-3e. T.D. 3,248 ft.; P.B. 3,000 ft.; S.D.

Dickinson County

Franks et al No. 1 Huffman, NW NW SW Sec. 11-13-1. S.D. 2,368 ft.

O. K. Supply Co. No. 1 Kamabe, C NE NE Sec. 15-14-2. Drlg. 705 ft.

Ellis County

Fred Smith No. 1 Werth, SW SW SE Sec. 33-15-18w. Rotary rig.

Ellsworth County

Gulf Oil Co. No. 1 Janssen, SW SW SW Sec. 29-17-10w. Drlg. 2,105 ft.

Graham County

Continental Oil Co. No. 1 Putnam Inv Co., CWL SW Sec. 23-9-21w. Simp. 3,775 ft.; Arb. 3,794 ft.; T.D. 3,805 ft.; P. 536 B.O. in 8 hrs.; pot. 1,609 B.O.; comp.

Johnson County

OK Supply Co. No. 1 Kamabe, C NE NE Sec. 15-14-22. Bart. sd. 830-56 ft., T.D.; est. 25 B.O.P.D.

Kiowa County

Sinclair Prairie No. 1 Price, NW NW SW Sec. 22-28-20w. Fsg. 3,090 ft.

Leavenworth County

John Hardaway No. 1 Scheller, SW SE SW Sec. 30-10-22. S.D. 345 ft.

Mead County

Pacific Midwest Oil No. 1 Rexford, NE SE SW Sec. 8-30-29w. S.D. 1,435 ft.

Ness County

Oriental Oil Co. No. 1 Beardslee, NE NE NE Sec. 21-18-25w. Rotary rig.

Norton County

Power Oil et al No. 1 Van Patten, C NE Sec. 26-4-21w. Drlg. 1,250 ft.

Osage County

J. M. Edwards No. 1 Detrick (O.W.D.D.), C NW SE Sec. 21-14-15. O.T.D. 1,200 ft.; U.R. 8-in. csg.

Ottawa County

Babcock Oil No. 1 Copeman, NW NW Sec. 18-10-2w. Miss. 2,835 ft.; H.F.W. 3,302-10 ft.; S.D. for csg. 3,480 ft.

Phillips County

Blue Stem Oil Co. No. 1 Donaldson, SE NE NE Sec. 25-5-18w. Drlg. 2,535 ft.

Pratt County

Champlin Ref. Co. No. 1 Elliott, SW NE Sec. 26-27-14w. Fsg. 4,857 ft.

Rice County

Gulf Oil No. 1 Barngrover, CWL SW SW Sec. 30-19-9w. Lans. 2,943 ft.; S.O. 3,018-20 ft.; Arb. 3,269-84 ft.; T.D. 3,284 ft.; P. 441 B.O. in 8 hrs.; pot. 1,322 B.O.

McPherson Drlg. Co. No. 1 Cramm, SE SE SW Sec. 15-19-9w. Drlg.

Phillips Pet. Co. No. 1 Proffitt, CEL NE NE Sec. 8-20-9w. Arb. 3,244-45 ft.; T.D. 3,259 ft.; P. 59 B.O. in 8 hrs.; pot. 177 B.O.

Phillips Pet. Co. No. 1 Newbold, SE SE NE Sec. 2-19-9w. Vla. 3,328 ft.; Simp. 3,375 ft.; Arb. 3,428-45 ft., T.D.; no shows; D.&A.

Russell County

Phil-Han Oil Co. No. 1 Hill, SE SW SW Sec. 16-14-14w. Lans. 3,023 ft.; 500 ft. O.I.H.; swbd. down and S.D.O.

Saline County

Central States Oil Co. No. 1 Crawford, NW SW NE Sec. 26-13-3w. S.D. 1,125 ft.

Sedgwick County

C. L. Carlock No. 1 Evans, SW SW SE Sec. 6-25-2. Miss. 3,345 ft.; Arb. 3,574 ft.; T.D. 3,608 ft.; D.&A.

Century Pet. Co. No. 1 Wilke, SW SE SW Sec. 1-29-2. S.D. 800 ft.

Shawnee County

W. M. McKnab No. 1 Fritz, SW SE NW Sec. 4-12-14. Miss. 1,901 ft.; Hunton 2,380 ft.; drlg. 2,625 ft.

W. M. McKnab et al No. 1 Spurgeon, SE SW SE Sec. 28-10-15. M.I.M.

Stafford County

Lauck & Moncrief No. 1 Connaughley, SW SW SW Sec. 18-24-13w. Lans. 3,590 ft.; Arb. 4,211-31 ft., T.D.; no shows; to test Lans.

Wabaunsee County

Scheu & Tague et al No. 1 Ave, NW SW NW Sec. 10-12-8. S.D. 1,235 ft.

Woodson County

H. H. Billerman No. 1 Huston, CSL SW SW Sec. 36-24-13. Drlg. 1,555 ft.
Roby et al No. 1 Meairs, SW SW NW Sec. 21-25-14. T.D. 1,189 ft., sd.; S.O.
M. J. Trott No. 1 Abbott, NW NE NE Sec. 21-25-14e. Drlg. 1,325 ft.

MISSOURI

Andrew County

Birkett et al No. 1 Gee, NW NW SE Sec. 28-60n-35w. M.I. mch.

Clay County

Eastern Drlg. Co. No. 1 Williams, NW NW NE Sec. 28-53-32w. Drlg.
Frank Hopper et al No. 1 Black, NW NW NW Sec. 36-52-32w. S.D. 1,640 ft.

Clinton County

C. E. King et al No. 1 Willis, NW NW NW Sec. 13-55n-32w. M.I.M.

De Kalb County

Geo. W. Moore No. 1 McQuarter, NE SW SW Sec. 11-57n-31w (wildcat). Drlg. 225 ft.

Holt County

Brin & Nathan No. 1 Garrett, C NE NE Sec. 2-61n-38w. Loc.

J. H. Everitt et al No. 1 Spring, SW SW SE Sec. 30-62-38w. S.G. 500 ft.; fsg. 2,440 ft.
Markham et al No. 1 Gaffney, SW SE SW Sec. 24-63-40w. R.R.

Hickory County

A. M. Sims No. 1 Wilson, NW NW NW Sec. 3-37n-21w. Drlg. 1,596 ft.

Johnson County

J. W. Farrar No. 1 Bastell, SE SE NE Sec. 27-46n-28w. S.D. 70 ft.
J. W. Farrar No. 1 Gard, SE NW NW Sec. 21-46n-28w. S.D. 460 ft.

Mercer County

Geo. W. Moore No. 1 Castell, NE NE NE Sec. 32-65-24w. Loc.

Shelby County

Chas. Delfeld No. 1 Turner, C NW NW Sec. 27-59n-9w (wildcat). Drlg. 175 ft.

Sullivan County

H. V. Elwell No. 1 Taylor, CNL S½ S½ Sec. 12-62-21w. Rig.

NEBRASKA

Cass County

Golden Rod Oil Co. No. 1 Sparer, SE SE SE Sec. 8-11-13e. Drlg. 255 ft.

Richardson County

H. C. Stephens and E. Uhri No. 1 Harlow, C SE NE Sec. 32-1n-13e. O.W.D. D.; S.D. 780 ft.

Hitchcock County

C. L. Price No. 1 Carter, SE NE SW Sec. 35-2n-32w. Lans. 3,976 ft.; S.D. 4,000 ft.; S.O.

ARKANSAS

Calhoun County

J. R. Lockhart No. 1 Southern Kraft Corp., SE cor. NW NW Sec. 17-14-13. O.W.W.O.; (formerly C. E. Murdock); reported T. ool. L. 4,371 ft.; S.D. 5,095 ft.; W.O.

Clark County

J. B. Zick, Tr., No. 1 A. P. Greene, NE cor. SE SE Sec. 21-8s-18w. Set 10-in. csg. 61 ft.; W.O.C. 100 ft.

Columbia County

Atlantic Ref. Co. No. 1-C Garrett, C SW SE Sec. 13-17-20. T. Bknr. 7,330 ft.; T. Smkvr. L. 7,385 ft.; gas-oil contact 7,474 ft.; T.D. 7,624 ft.; perf. 7,514-57 ft. and 7,575-7,602 ft.; set 5½-in. csg. 7,623 ft.; tstg. 7,624 ft.
Atlantic Ref. Co. No. 1-E Garrett, C SE NW Sec. 24-17-20. R.U.
Hassie Hunt No. 1 Tally, Sec. 14-17-20. T. Bknr. 7,466 ft.; fsg. 7,547 ft.
Lion Oil Ref. Co. No. 1 Crisp-Glasgow Unit, C NE SE Sec. 23-17-20. Drlg. 3,170 ft.
Lion Oil Ref. Co. No. 2 Crisp-Glasgow Unit, C NW SE Sec. 23-17-20. Drlg. 2,780 ft.
Lion Oil Ref. Co. No. 1 A. C. Garrett, C SE SE Sec. 13-17-20. R.U.
Phillips Pet. Co. No. 1 Askew Unit, C NE NW Sec. 4-17-21. T. Tr. Pk. 4,620 ft.; drlg. rd. sh. 5,546 ft.
Shell Pet. Corp. No. 1 L. Garrett, C NW SE Sec. 13-17-20. 9⅝-in. csg. 2,215 ft.; drlg. rd.&gr. sh. 5,670 ft.
Shell Pet. Corp. No. 1 Glasgow, C NW NW Sec. 23-17-20. R.U.
Shell Pet. Corp. No. 2 Glasgow, C SW NW Sec. 23-17-20. Drlg. 3,695 ft.
Southwood Oil Co. No. 1 L. A. Grelling, C NE NW Sec. 23-17-20. T.D. 7,489 ft.; D.S. stk.; P.B. 6,720 ft.; circ. with oil; could not pull D.S.; P.B. 2,400 ft.; drld. to 2,770 ft.; lost circ.; P.B. 2,352 ft.; to sdtrk.; drlg. new hole 2,415 ft.
Southwood Oil Co., Inc., No. 2 Grelling, C SW NE Sec. 23-17-20. T.D. 7,513 ft.; set 7-in. csg. 7,485 ft.; T. Smkvr. L. 7,354 ft.; tstg. 7,513 ft.
Standard Oil Co. of La. No. 1-B T. Crumpler, NW cor. NW NW Sec. 15-17-19. R.U.
Tide Water Oil Co. No. 1 Price, C NE SW Sec. 15-18-19. T. Smkvr. L. 8,211 ft.; T. por. sat. 8,227 ft.; cg. 8,232 ft.
G. H. Vaughn No. 1 D. B. Baker Unit, C SW SW Sec. 14-17-20. Set 16-in. csg. 206 ft.; W.O.C.

Hot Spring County

John H. James No. 1 Sturgess Lbr. Co., SW cor. SW SE Sec. 24-6-18. 10-in. csg. 58 ft.; cd. hd. dense gr. L. 964-78 ft.; T.D. 1,048 ft.; S.O. reported 480-82 ft. and 819-21 ft.; hd. sd.; cd. 1,048-58 ft.; rec. 5 ft. v. hd. sh.; S.D.; pmp. rep.

Lafayette County

Standard Oil Co. of La. No. 2 Waters et al, SE cor. NE SW Sec. 7-16-22. Drlg. L. 3,572 ft.

Little River County

C. & M. Drlg. Co. No. 1 Strawn, SW cor. SE Sec. 20-10-32. Cd. 1,270-80 ft.; sh.& wtr. sd.; reported S.O. 1,365-70 ft.; 1,542-64 ft. sd. and 1,564-74 ft. sdy. L.; cor. T.D. 1,598 ft.; set 7-in. csg. 1,590 ft. (cor.); T.D. 1,598 ft.

Lonoke County

Lonoke-Prairie Dev. Co. No. 1 T. Young, C NW NW Sec. 8-3n-7w. Hole clean; U.R. 8¼-in. csg. 236 ft.; T.D. 300 ft.; R.U. rotary tools.
J. F. Russell No. 1 J. T. Gunter, 440 ft. N, 577 ft. W, SE cor. Sec. 17-5n-10w. Drlg. hd. gr. sh. 1,995 ft.

Miller County

Lyons & Merritt No. 2 Matlock, NE cor. SE SE Sec. 2-20-28. Drlg. sh.&L. 5,300 ft.

Nevada County

Berry Asphalt Co. No. 1 Groves Lbr. & Tbr. Co., SE cor. N SW Sec. 4-14-20. M.I. rig.
Berry Asphalt Co. No. 2 Groves Lbr. & Tbr. Co., SW cor. SW NW Sec. 4-14-20. T. Nac. sd. 1,206 ft.; set 7-in. csg. 1,206 ft.; est. 800 ft. F.I.H.; W.O. S.R. 1,213 ft.

Ouachita County

J. E. Crosbie, Inc., No. 2 F. A. Laney, Sec. 36-15-16. M.I. rig.
Phillips Pet. Co. No. 1 J. D. Reynolds, 330 ft. SE cor. SE NW Sec. 27-15-15. O.W.W.O.; O.T.D. 4,926 ft.; comp. as disc. well, Snow Hill field; perf. csg. 2,732-35½ ft., 2,728-31½ ft., 2,744-47½ ft., and 2,756-60 ft.; est. 2,300 ft. F.I.H., 1% oil; P.B. 2,770 ft.; set cmt. retainer 2,719 ft.; sqzd.; S.D.; W.O. 2,746 ft.

Saline County

A. W. Givens No. 1 Williams, 375 ft. S, 420 ft. E, NW cor. NE NE Sec. 18-3s-15w. R.U.C.T. 104 ft.
E. M. Jones No. 1-C Murphy Ld. Co., Sec. 24-18-18. M.I. rig.
Marine Oil Co. No. 8 fee, 330 ft. SE cor. NE NE Sec. 20-18-17. R.U.

Union County—Schuler

Lion Oil Ref. Co. No. 2 F. N. Bank, NW cor. NE Sec. 13-18-18. Drlg. 7,057 ft.
Lion Oil Ref. Co. No. 3 F. N. Bank, C S½ SW SE Sec. 12-18-18. Drlg. rd.&gr. sh. 5,517 ft.
Phillips Pet. Co. No. 4 Brian, NE cor. NE SE Sec. 13-18-18. T.D. 7,760 ft.; T. Jones sd. 7,528 ft.; set 7-in. csg. 7,736 ft.
Phillips Pet. Co. No. 10 Sewell, C S½ Lot 4, SW Sec. 7-18-17. Drlg. 7,552 ft.

Union County—Other

Bob Milam No. 1 Primm Est., SE cor. Lot 5, NE Sec. 1-16-16. R.U.
Oliphant Oil Co. No. 1 Union Sawmill Co., C SW NW Sec. 22-19-14. Cd. 2,492-2,512 ft.; rec. 1 ft. 6 in. tight gr. sd.; set 9⅝-in. csg. 3,184 ft.; drlg. sd. &sdy. sh. 5,802 ft.
Sam Sebersky et al No. 2 J. N. Jerry, 100 ft. SW No. 1, Sec. 21-17-14. Arng. core 2,610 ft.

NORTH MISSISSIPPI

Clarke County

Jeremiah L. Ryan et al No. 1 M. Eddins, 500 ft. SE cor. Sec. 29-2n-14e. Drlg. sh.&sd. 975 ft.

Lowndes County

Ryan & Anderson No. 1 Swoope, Sec. 3-19s-18w. Drlg. sd. 913 ft.

Hinds County

Tatum et al No. 1 S. F. Johnson, NE cor. Sec. 29-6n-1w. S.D. 5,218 ft., sd.; arng. D.D.; erecting 122-ft. drk; sdtrkd. hole at 4,370 ft.; drlg. sd.&sh. 4,800 ft.

Madison County

Union Prod. Co. No. 1 Anderson, Sec. 12-8n-1w. Drlg. 359 ft.; set 13⅜-in. csg. 800 ft.; T. chk. 4,348 ft.; cg. 4,770 ft. in chk.; D.S.T. 4,401-37 ft.; S.O.&S.W. drlg. sd. 5,470 ft.

Prentiss County

Home Dev. Co. No. 1 Allen, Sec. 8-7s-9e. Drlg. L. 640 ft.

Simpson County

Cleve Love No. 1 N. E. Garner, SW cor. SW NE Sec. 1-10n-17w. Drlg. sdy. sh. 2,800 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Ark. La. Gas Co. No. 2 Gayoso, 660 ft. SW cor. SE Sec. 14-16-10. T. Tr. Pk. 5,432 ft.; D.S.T. 5,796-5,805 ft. tstd. dry in 26 min.; set 8⅝-in. csg. 6,300 ft.; drlg. sh. 8,073 ft.
Ark. La. Gas Co. No. 1 Shehee, C NW SW Sec. 13-16-10. Drlg. sh.&L. 5,136 ft.
Union Prod. Co. No. 1 Bienville Sch. Bd., 1,056 ft. S, 875 ft. W, NE cor. Sec. 16-16-10. Drlg. 2,729 ft.

Bossier Parish

Harry Hanbury No. 1 Leonard, 660 ft. NE cor. Sec. 19-19-13. R.U.

Caddo Parish

J. P. Adams et al No. 1 Stallcup, N½ NW NW Sec. 34-22-16. 5½-in. csg. 2,460 ft.; T.D. 2,468 ft.; O.I.H.: C.I.; W.
J. P. Adams et al No. 2 Stallcup, SW cor. NW NW Sec. 34-22-16. Tstd. dry; S.S.O. 2,476 ft.; set 5½-in. csg. 2,469 ft.; T.D. 2,476 ft.; W.O.S.R.
R. E. Allison No. 8 Ellerbe, SW cor. Sec. 26-18-14. Drlg. sh.&L. 4,567 ft.
R. E. Allison No. 9 Ellerbe, Sec. 26-18-14. Set surf. csg. 2,240 ft.; W.O.C.
R. E. Allison No. 10 Ellerbe, Sec. 26-18-14. Set surf. csg. 2,250 ft.; W.O.C.
Ballow & Williams No. 1 Crystal fee, SE cor. NE SW Sec. 24-21-16. Set 6-in. csg. 975 ft.; W.O.S.R. 981 ft.
Batchelor, Adams & Birdwell No. 1 Van Horn, Sec. 22-22-16. Cg. 2,656 ft.
Bossier Holding Co. No. 1 Woolworth, SE cor. Sec. 26-20-15. Set 9⅝-in. csg. 1,370 ft.; drlg. 2,380 ft.
Mose Browning et al No. 1 Browning, SE cor. Sec. 21-22-16. Set 5½-in. 2,628 ft.; oil sd. 2,630-35 ft.; T.D. 2,635 ft.; W.O.C.
J. M. Buckler No. 2 Barry, NW Sec. 11-20-16. Set 7-in. csg. 1,345 ft.; tstg. S.W.; W.O. 1,589 ft.
Burnham Drlg. Co. No. 2 Bell, Sec. 34-22-16. Set 7-in. csg. 2,483 ft.; T.D. 2,493 ft.; W.O.C.
Carney et al No. 3 Hart, SE NW Sec. 21-21-16. Drlg. sh. 2,365 ft.
Drillers, Inc., No. 1 Ellerbe, SW cor. Sec. 23-18-14. Drlg. sh.&L. 4,608 ft.
East Texas Ref. Co. No. 2 Williams, SE cor. NE Sec. 5-23-15. R.U.
M. M. Ferrell No. 1 Satterwhite, SE NW Sec. 10-20-16. Set 6-in. csg. 1,335 ft.; tstd. S.W.; S.O. 1,580 ft.; acdzd. with 3,000 gal.; tstd. S.W.; S.O.; S.D.; W.O.
Harry Fotiades No. 1 Brown, 880 ft. N, 115 ft. W, C Sec. 35-18-14. R.U.
Gerhig Co. No. 1 Caddo Levee Bd., SE Sec. 36-21-16. Set 7-in. csg. 2,261 ft.; tstd. S.O. and est. 1,000,000 cu. ft. gas 2,273 ft.; T.D. 2,299 ft.; W.O.
Hamilton & Stone No. 1 Atlanta, 500 ft. S, 244 ft. W, NE cor. NW Sec. 2-20-16. R.U.
Hurricane Pet. Corp. No. 1 De Soto, Sec. 26-18-14. Drlg. 3,915 ft.
Hurricane Pet. Corp. No. 2 Harmon, C SE SW Sec. 34-18-14. Set 13⅜-in. csg.; cg. 5,566 ft.
La. Nat. Gas Co. No. 2 Stiles, 1,220 ft. N, 100 ft. W, SE cor. NE Sec. 28-21-16. R.U.
Lisbon-Iberia Oil Co. No. 1 Morgan et al, SE cor. NE SE Sec. 34-18-14. Drlg. sh.&L. 3,786 ft.
C. C. Lowery No. 1 Collins, NW NE Sec. 7-20-15. Set 7-in. csg. 1,356 ft.; acdzd. with 3,000 gal.; W.O.S.R.; T.D. 1,580 ft.
Martin Drlg. Co. No. 1 Van Horn, 990 ft. E, 330 ft. S, NW cor. SW Sec. 22-22-16. Drlg. sh. 106 ft.
W. R. Nicholson Oil Co. No. 1 Exchg. Nat. Bnk. NE cor. Sec. 26-18-14. Drlg. 3,802 ft.
Oblinger & Ritter No. 2 Boisseau, SE cor. Sec. 34-21-16. Rng. csg. 977 ft.
Porter et al No. 1 Muslow, NW SE Sec. 32-21-15. R.U.
Red Iron Drlg. Co. No. 1 Model Gardens Unit, SE cor. Sec. 23-18-14. Drlg. sh.&L. 5,167 ft.
Skidmore-O'Mara, Inc., No. 1 Muslow, O.W.W.O., SW Sec. 31-21-15. Drlg. sh. 550 ft.
Joe Straughn No. 1 Hart, 430 ft. N, 330 ft. E, SW cor. Sec. 29-21-16. Set 6-in. csg. 2,220 ft.; tstd. dry; W.O. 2,398 ft.
Wardell Oil Co. No. 1 Clark & Hutchinson, NE SE Sec. 26-18-14. Set 9⅝-in. csg. 1,502 ft.; drlg. sh. 3,279 ft.
R. W. Williams No. 2 Crystal fee, SW cor. SE SW Sec. 24-21-16. Set 7-in. csg. 1,500 ft.; fsg. 1,750 ft.; T.D. 2,283 ft.

Caldwell Parish

Critchett & Woods (formerly E. T. Oakes) No. 1 Kyles, NE cor. SW NE Sec. 18-11-3e. S.D. 1,503 ft.; rig rep.

Claiborne Parish

Maritsky & Bibby No. 2 McClung, SE cor. SW Sec. 29-21-7. Set 6-in. csg. 1,290 ft.; W.O.S.R. 1,456 ft.
Maritsky & Bibby No. 3 McClung, SW Sec. 29-21-7. Set 10-in. csg. 90 ft.

De Soto Parish

Atlantic Ref. Co. and Seaboard Oil Corp. No. 1 Frank Grocery Co., NW Sec. 35-12-11. Set 8-in. csg. 101 ft.
T. D. Humphries No. 1 Jenkins Est., C NE SW Sec. 12-12-14. Drlg. sh.&sd. 3,042 ft.

La Salle Parish

Adams O. & G. Co. No. 1 Goodpine Oil Co., 660 ft. S, 330 ft. W, C Sec. 1-6-2e. Set 10-in. csg. 103 ft.
W. B. Jarvis No. 1-A Montague, NE cor. NW NW Sec. 11-9-1e. Drlg. 800 ft.
Snow Black Oil Co. No. 1 Pendarvis, 250 ft. NE cor. SW SE Sec. 21-10-1e. Drlg. sh. 175 ft.
G. W. Ziegen No. 16 La. Cent. Lbr. Co., SW cor. Sec. 24-11-2e. T. Wlx. 1,619 ft.; S.W.; S.D.; W.O. 1,690 ft.

Natchitoches Parish

Jack Lent et al No. 1 Whatley, SW cor. Sec. 17-10-10. S.O.&G. reported at 1,490-1,516 ft.; D.S.T. 3,282-96 ft.; tstd. 100 ft. mud cut with 40-grv. oil; P.B. 3,300 ft.; set 6⅝-in. csg. 3,282 ft.; bld. down 600 ft. of bttm.; S.S.O.; ran 2-in. tbg. and lnr. and tstd. S.O.&S.W.; T. tbg. and lnr. and tstd. S.O.&S.W.; pmpd. S.O. and much S.W.; pmpd. off approx. 10 B.O.; will shoot with nitro; perf. csg. 3,262-72 ft. and 3,275-79 ft.

Sabine Parish

Geo. Ellis No. 1 Walker, 500 ft. NW cor. NW SE Sec. 8-4-12. Set 12½-in. csg. 276 ft.; reported S.O. 2,180 ft. and 2,263-65 ft.; rng. csg. 2,269 ft.; cd. sdy. sh. 2,265-69 ft.; set 7-in. csg. 2,250 ft.; drld. plug. and W.O.; T.D. 2,271 ft.
Hunter Co. No. 9 Bowman Hicks, 660 ft. S and E, C Sec. 12-7-13. Drlg. 50 ft.
Potter et al No. 1 Ebarb, NE cor. SE Sec. 4-7-13. Set 6-in. csg. 2,038 ft.
C. H. Smith Sabine Lbr. Co., NE cor. NW NW Sec. 9-7-13. Rng. 7-in. csg.; T.D. 2,031 ft.
H. M. Sneed No. 1 Leone, SW cor. NW SE Sec. 8-7-13. S.D. 1,210 ft.; rig rep.
Jeff Spier No. 1 Remedes, SE cor. NW NW Sec. 12-7-13. Set 10-in. csg. 60 ft.
Sutton Zwolle Oil Co. No. 3 Bowman Hicks, 330 ft. SW cor. SW NW Sec. 18-7-13. Set 6⅝-in. csg. 2,142 ft.
Williams & Spiers No. 1 Byrd, SW cor. SE NW Sec. 1-7-11. D.&A. 2,841 ft.

Union Parish

Standard Oil Co. of La. and Joe Modisett No. 1-B Frost Lbr. Ind., Sec. 14-23n-2w. Cd. 6,910-24 ft.; rec. 12½ ft. sd. and strks. sh.; no show; set 9⅝-in. csg. 4,508 ft.; T.D. 7,008 ft.

Webster Parish

Hunt Oil Co. No. 5 Bodcaw-Stewart, NW cor. NE Sec. 33-21-10. Hollwy. sd. 5,-

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GIDDENS-LANE BUILDING -:- SHREVEPORT, LA.

734-63 ft. and 5,885-95 ft., oil; set 9⅝-in. csg. 5,938 ft.; T.D. 8,347 ft.; "D" sd. 8,165-80 ft.; (dist.); Bodcaw sd. 8,-253-92 ft. (dist.); set 7-in. csg. 8,342 ft.; perf. 8,270-90 ft.; will not flw.; believed bad csg. job, 8,347 ft.

Hunt Oil Co. and Magnolia Pet. Co. No. 1 Gray-Cox, SW cor. Sec. 19-21-9. R.U.

Hunt Oil Co. No. 1 Miller, 100 ft. N, C NW NE Sec. 4-20-10. Drlg. rd. sh. 6,-760 ft.

Hunt Oil Co. No. 1 Stewart, NW SE Sec. 32-21-10. Drlg. sh.&L. 4,816 ft.

Magnolia Pet. Co. No. 1 Roseberry Unit, 20 ft. N and W, C SE Sec. 29-23-9. Used 750 gal. acd. and flwd. and swbd. 83 B.P.D.; T.D. 9,250 ft.; O.T.D. 9,380 ft.; flwd. 31 bbls. in 5½ hrs.; 3 heads; through 1-in. ck.; pulled 2½-in. tbg. and ran 2-in. tbg.; C.I.C.P. 700 lbs.; C.I.T.P. 600 lbs.

Midstates Oil Corp. No. 1 Giddens, 100 ft. NW cor. SW SW Sec. 30-21-9. Set 13-in. csg. 100 ft.; set 9⅝-in. csg. 5,794 ft.; T. Cotton Valley 8,071 ft.; drlg. rd. sh. 8,135 ft.

Oliphant Oil Co. No. 2-A Stewart et al, SW cor. Sec. 33-21-10. Drlg. sh. 6,323 ft.

Union Prod. Co. No. 1 Walker Unit, 50 ft. S, C SE Sec. 30-18-8. Set 9⅝-in. csg. 6,490 ft.; T. Pettit 6,665 ft.; T. Tr. Pk. 6,910 ft.; drlg. rd. sh. 9,521 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Franciol, Sec. 67-12s-3e. Drk.

Continental Oil Co. No. 1 Lucion Duhon, Sec. 17-12s-3e. Drlg. sh. 9,036 ft.

Bancroft—Beauregard Parish

Republic Prod. Co. No. 4 Lutcher Moore Lbr. Co., Sec. 16-6s-13w. Drlg. 3,630 ft.

Republic Prod. Co. No. 1 Whitman, Sec. 15-6s-3w. Drlg. 7,000 ft.; no report.

Bateman Lake—St. Mary Parish

Texas Co. No. 2 State-Bateman Lake, Sec. 21-16s-12e. 13⅜-in. csg. 1,700 ft.; T.D. 9,453 ft.; fsg.

Texas Co. No. 2 Wax Bayou Co., Sec. 21-16s-12e. Cg. sh. 10,567 ft.

Baton Rouge—East Baton Rouge Parish

Guaranty Oil Co. No. 1 D. J. Morgan, 9⅝-in. csg. 1,169 ft.; T.D. 3,708 ft.; P. B. to 2,065 ft. to strghtn. hole.

Geo. Helis et al No. 1 McInnis, Sec. 36-8s-1w. Drlg. sh. 6,303 ft.

Wm. Helis No. 4 Harry B. Nelson, Sec. 36-7s-1w. T.D. 7,529 ft.; perf. csg. 7,-158-68 ft.; dist. and S.W.

Wm. Helis No. 1 Williams, Sec. 66-7s-1w. T.D. 6,480 ft.; 7-in. csg. 6,403 ft.; I.P. 288 bbls. P.L.O.; ¼-in. ck.

Lisbon-Iberia Oil Co. No. 1 D. A. Duplanter, Sec. 66-7s-1w. Drlg. sh. 1,618 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 3-B State-Bay, Sec. 13-22s-17e. Drlg. sd. 2,310 ft.

De Large—Terrebonne Parish

Fohs Oil Co. No. 1 Buckley-Mahler, Sec. 25-19s-16e. 13⅜-in. csg. 3,380 ft.; drlg. sh. 7,895 ft.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 11 Wilberts, Sec. 67-9s-11e. Loc.

Bayou des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 4 St. Charles Ld. Co., Sec. 13-15s-2e. Loc.

Caillou Island—Terrebonne Parish

Texas Co. No. 1-B State-Caillou Island, Sec. 19-23s-20e. Drlg. sh. 3,433 ft.

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 26 Sch. Ld., Sec. 16-14s-13w. T.D. 2,465 ft.; 13⅜-in. csg. 2,465 ft.; T.D. 6,564 ft.; P.B. sdtrkd.; T. salt 8,059 ft.; T.D. 8,065 ft.; P.B. to 2,485 ft.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 5 Dibert, Stark & Brown Cypress Co., Sec. 70-15s-15e. 16-in. csg. 110 ft.; 10¾-in. csg. 1,865 ft.; T.D. 6,-055 ft.; stk. D.S.; P.B. and sdtrkd. at 3,718 ft.; drld. to T.D. 4,312 ft.; P.B. 1,850 ft.; sdtrkd.; cd. oil sd. 7,222-36 ft.; T.D. 7,242 ft.; 7-in. csg. 7,205 ft.

Sun Oil Co. No. 4 Delbert Stark and Brown Cypress Co., Sec. 70-15s-15e. T.D. 7,794 ft.; P.B. 6,764 ft.; sdtrkd.; T.D. 8,268 ft.; stk. D.S.; shot at 8,195 ft.; P.B. 7,642 ft.; sdtrkd. 7,642 ft.; T. D. 8,260 ft.; 9⅝-in. csg. 8,260 ft.; T.D. 8,292 ft.; cleaned hole; found csg. collapsed.

Sun Oil Co. No. 1 Dodge, Sundberry & Latham, Sec. 65-15s-15e. Drk.

Chalkley Field—Cameron Parish

Humble O. & R. Co. No. 3 K. B. Hanzen, Sec. 9-12s-6w. Drlg. sh. 8,630 ft.

Humble O. & R. Co. No. 2 Sweet Lake Ld. & Oil Co., Sec. 8-12s-6w. Loc.

Shell Pet. Corp. No. 1-A Katherine Bel Hanzen, Sec. 15-12s-6w. Drlg. sh. 7,-817 ft.

Charenton—St. Mary Parish

Commerce Oil Co. No. 1 T. Brulation, Sec. 19-13s-10e. Loc.

Kinsley Oil, Inc., No. 1-B Hertel, Sec. 30-13s-9e. Loc.

Pan American Prod. Co. No. 1 Achee, Sec. 21-13s-9e. Loc.

Pan American Prod. Co. No. 13 Laws Realty Co., Sec. 30-13s-10e. Spd.

Pan American Prod. Co. No. 14 Laws Realty Co., Sec. 30-13s-10e. Drk.

Pan American Prod. Co. No. 13 Veeder, Sec. 30-13s-10e. Bldg. road.

Chenevyville—Rapides Parish

Sid Richardson No. 1 Well Co., Inc., Sec. 55-1s-2e. T. Cckfld. 5,936 ft.; drlg. 8,-312 ft.

Texas Canadian Oil Co. No. 1 Myrtle B. Pope, Sec. 4-1s-2e. Comp.; no ga.

Convent—St. James Parish

Continental Oil Co. No. 2 Realty Operators, Inc., Sec. 16. 13⅜-in. csg. 1,-492 ft.; T.D. 7,889 ft.; P.B. 7,275 ft.; sdtrkd. 7,305 ft.; T.D. 8,235 ft.; well blew out; caught fire; cleaned hole to 4,866 ft.; P.B. 2,502 ft.; sdtrkd.; drlg. sd.&sh. 3,235 ft.

Creole—Cameron Parish

Superior Oil Co. No. 6 State-Gulf of Mexico. T.D. 5,986 ft.; P.B.; sdtrkd.; drlg. sd.&sh. 2,630 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 21 Community, Sec. 31-10s-2e. T.D. 6,415 ft., oil sd.

Humble O. & R. Co. No. 5 Landry, Sec. 34-10s-2e. Drk.

Kiva Oil Co. No. 1 Duplessis, Sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 9 State, Sec. 5-22s-16e. Drlg. sh. 6,602 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp. No. 1 Mrs. C. B. Machine, Sec. 6-2s-3e. R.U.

Amerada Pet. Corp. No. 2 Mrs. C. B. Machine, Sec. 6-2s-3e. Bldg. road.

J. E. Jones No. 1 Haas Inv. Co., Sec. 8-2s-3e. Drlg. sh.&L. 8,273 ft.

O'Meara Bros. No. 1 W. F. Kelley, Sec. 7-2s-3e. 13⅜-in. csg. 15 ft.; W.O. permit.

Sid Richardson No. 4 Haas Inv. Co., Sec. 7-2s-3e. Drlg. sh.&L. 8,488 ft.

Sid Richardson No. 1 State Bayou, Sec. 7-7s-2e. Drlg. sh. 6,543 ft.

Sun Oil Co. No. 1 E. A. Townsend, Sec. 8-2s-2e. Drlg. sh. 7,258 ft.; reported to cut 110-ft. fault at 3,950 ft.

Fausse Point—Iberia Parish

Texas Co. No. 5 State Lake-Fausse Point, Sec. 35-11s-8e. T.D. 12,125 ft.; set 1,-926 ft. of 5-in. csg.; set screen and lnr. hung tbg. at 9,853 ft.; tstg.

Garden Island—Plaquemines Parish

Texas Co. No. 33 State, Sec. 38-23s-33e. 16-in. csg. 551 ft.; drlg. sdy. sh., oil odor, 6,002 ft.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 3 R.E.K., Sec. 40-17s-15e. T.D. 8,898 ft.; make D.S.T.

Gillis—Calcasieu Parish

Union Sulphur Co. No. 8 Kaufman, Sec. 7-9s-8w. Cg. sh. 7,938 ft.

Golden Meadows—La Fourche Parish

M. H. Marr and G. H. Vaughn No. 1 B. & D. Unit, Sec. 12-19s-22e. R.U.

Martex Pet. Corp. No. 1 Falgout Holding Co., Inc., Sec. 9-19s-22e. Cd. sh.& sd.; O.S. 2,636-45 ft. and oil sd. 2,645-54 ft.; drlg. sh. 7,295 ft.; rec. 36 stands 42-gr. oil; D.S.T. 7,121-7,202 ft. cd. oil sd. 7,919-64 ft.; cd. S.W. sd. 7,-965 ft.; T.D. 8,502 ft.; run 7-in. csg.

Grand Bay—Plaquemines Parish

Gulf Oil Corp. No. 4 Grand Prairie Lve. Dist., Sec. 48-20s-18e. Cd. shaly sd., S.O., 6,137-6,741 ft.

Gulf Oil Corp. No. 2 State, Sec. 6-20s-19e. Drlg. sd. 7,400 ft.

Hackberry—Cameron Parish

F. W. Bennett No. 1 Bickford, Sec. 37-12s-10w. 7-in. csg. 7,037 ft.; T.D. 8,104 ft.; stk. D.S.; fsg.; P.B.; sdtrkd.; cg. sh. 8,026 ft.

Gulf Oil Corp. No. 25-A Erwin, Sec. 13-12s-10w. Drk.

Superior Oil Co. No. 1 Kaough, Sec. 31-12s-10w. Drlg. sh. 4,020 ft.

Texas Co. No. 25-B State, Twp. 12s-9w. T. salt 7,440 ft.; T.D. 7,445 ft.; S.D.

Union Sulphur Co. No. 8 Caldwell, Sec. 37-2s-10w. R.U.

Union Sulphur Co. No. 12 Doiron, Sec. 37-12s-10w. Cg. sh.&sd. 7,765 ft.; no report.

Union Sulphur Co. No. 13 Doiron, Sec. 27-12s-10w. S.D. 5,221 ft.

Union Sulphur Co. No. 1 Josephine O'Quinn, Sec. 37-12s-10w. T.D. 6,927 ft.; sdtrkd.; drlg. sh.&L. 7,057 ft.; no report.

Jefferson Island—Iberia Parish

Texas Co. No. 2 Jefferson Island, Sec. 58-12-5e. 18⅝-in. csg. 40 ft.; 7⅝-in. csg. 8,451 ft.; drlg. sh. 9,412 ft.

Texas Co. No. 2 State-Lake Peigneur, Twp. 12s-5w. Drlg. sh.&L. 6,530 ft.

Jennings—Acadia Parish

W. T. Burton No. 6 Roboria, Sec. 41-9s-2w. 7-in. csg. 6,721 ft.; fsg. tbg.; T.D. 6,997 ft.; sdtrkd. at 6,118 ft.; drld. to 6,178 ft.; sdtrkd. at 6,023 ft.; T.D. 6,-732 ft.; trying to drill by fish; P.B. 6,104 ft.; W.O.C.; sdtrkd. 6,020 ft.; T.D. 6,056 ft.; 7-in. csg. 2,203 ft. and 10¾-in. csg. 2,108 ft.; sdtrkd.; drld. into old hole; P.B.; sdtrkd. 2,302 ft.; T.D. 6,763 ft.; 7-in. csg. 6,711 ft.; perf. csg. 6,292-6,430 ft.; flwd. some oil, then went dead; P.B. 6,450 ft.; W.O. S.R.; comp.; no ga.

W. T. Burton No. 7 Roberia, Sec. 41-9s-2w. Drlg. sh. 6,712 ft.

Glassell & Glassell No. 7 McFarlain, Sec. 41-9s-2w. Drlg. sh. 6,510 ft.

Gulf Oil Corp. No. 41 Arnaudet, Sec. 47-9s-2w. 9⅝-in. csg. 4,557 ft.; drlg. sh. 5,050 ft.

Shell Pet. Corp. No. 6 Conover, Sec. 40-17s-15e. Cg. 7,312 ft.

Stanolind O. & G. Co. No. 114 Crowley Oil & Mineral Co., Sec. 48-9s-2w. T.D. 3,755 ft.; fsg.

Lafitte—Jefferson Parish

Texas Co. No. 2 Sch. Bd., Sec. 20-17s-24e. T.D. 6,601 ft.; sdtrkd. 6,375 ft.; went back into old hole; trying to sdtrk. at 6,387 ft.

Texas Co. No. 2 State-Bayou Norman, Sec. 21-17s-24e. 10¾-in. csg. 1,942 ft. drlg. sdy. sh. 3,845 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 43 State, Sec. 30-21s-20e. T.D. 4,122 ft.; P.B.; sdtrkd.; drlg. sh. 2,107 ft.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 8 State, Sec. 17s-19e. T.D. 9,600 ft.; rmg.

Lake Mongoulois—St. Martin Parish

Texas Co. No. 7 State, Sec. 10-10s-9e. R.U.

Lake Pelto—Terrebonne Parish

Texas Co. No. 24 State, Sec. 18-23s-18e. Drlg. sdy. L. 5,213 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 W. E. Mont, Sec. 32-19s-19e. Loc.

Humble O. & R. Co. No. 2 H. J. Ellender, Sec. 32-19s-19e. Cd. sd. S.G. 10,-465-74 ft.; 9⅝-in. csg. 8,614 ft.; T.D. 11,610 ft.; made sqze. job 8,285-90 ft. and 8,366-81 ft.; drlg. out cmt. to 10,991 ft.; perf. csg. 8,366-81 ft.; I.P. 3 bbls. dist. per day; ⅛-in. ck.

Humble O. & R. Co. No. 1 C. P. Smith, Sec. 53-19s-19e. Drlg. sh. 4,115 ft.

New Iberia—Iberia Parish

Lisbon-Iberia Oil Corp. No. 7 Gulf fee, Sec. 25-12s-7e. T.D. 5,939 ft.; P.B.; sdtrkd.; drlg. sh. 5,412 ft.

Texas Co. No. 2 Bryant, Sec. 25-12s-7e. R.U.

Texas Co. No. 9 J. P. Duhe, Sec. 26-12s-7e. R.U.

Texas Co. No. 2-A Hanzon, Sec. 54-12s-7e. 7⅝-in. csg. 8,075 ft.; S.D. 8,801 ft.; heaving sh.; P.B. 8,065 ft.; W.O.C.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 4 H. J. Habetz, Sec. 45-8s-1e. Loc.

Humble O. & R. Co. No. 4 Ohlenforst, Sec. 45-8s-1e. T.D. 8,537 ft.; 7-in. csg. on bttm.

North Tepetate—Acadia Parish

St. Mary Oil Co. No. 1 Dr. H. Jenkins, Sec. 12-7s-2w. Drk.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 4 H. L. Garland, Sec. 4-6s-5e. T.D. 5,195 ft.; 7-in. csg. 5,156 ft.; I.P. 400 B.P.D.; ¼-in. ck.

Y. D. Spill No. 1 Gaudet, Sec. 4-6s-5e. S.D. 4,700 ft.

Western Gulf Prod. Co. No. 1 Watkins, Sec. 4-6s-5e. Bldg. road.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 38 Orleans Lve. Dist., Sec. 13-18s-15e. 13⅜-in. csg. 2,-957 ft.; T.D. 7,980 ft.; 7-in. csg. 7,963 ft.; I.P. 168 B.P.D.; ¼-in. ck.

Humble O. & R. Co. No. 39 Orleans Lve. Bd., Sec. 13-18s-15e. Bldg. drk.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 1 Grand Prairie Lve. Dist., Sec. 18-19s-17e. Drlg. sh. 8,168 ft.

Gulf Oil Corp. No. 3-A Orleans Lve. Bd., Sec. 7-19s-17e. Drlg. sh. 150 ft.

Gulf Oil Corp. No. 2-A Plaquemines Ld. Co., Sec. 7-19s-17e. 13⅜-in. csg. 1,524 ft.

Gulf Ref. Co. No. 5 State, Sec. 17-19s-17e. Loc.

Gulf Oil Corp. No. 8 State, Sec. 18-19s-17e. T.D. 8,175 ft.; 7-in. csg. 8,100 ft would not flow; pulling screen; I.P. 456 B.P.D.; ¼-in. ck.

Gulf Oil Corp. No. 9 State QQ, Sec. 18-19s-17e. Loc.

Raceland—La Fourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., Sec 34-15s-19e 18⅝-in. 11,312 ft.; T.A.

Amerada Pet. Corp. No. 4 South Coast Corp., Sec. 34-15s-19e. 18⅝-in. csg. 239 ft.

Tide Water Asso. Oil Co. No. 2-A South Coast Corp., Sec. 34-15s-19e. Drlg. sh. 4,035 ft.

Roanoke—Jeff Davis Parish

Humble O. & R. Co. No. 1 Ferguson, Sec. 13-9s-4w. T.D. 8,008 ft.

Sorrento—Ascension Parish

Sorrento Synd. No. 1 L. L. Bernard, Sec. 27-10s-4e. R.U.

South Houma—Terrebonne Parish

Shell Pet. Corp. No. 3 Peters. Drlg. sh. 2,066 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 1 Calcasieu Natl. Bnk., Sec. 36-10s-4w. Loc.

Valentine—La Fourche Parish

T. G. Markley and Mohawk Oil Corp. No. 1 Deusson Hrs., Sec. 100-17s-20e. R.U.

Pan American Prod. Co. No. 20 Harang, Sec. 8-17s-20e. Drlg. 3,936 ft.

John Vacarro et al No. 2 Acosta Hrs., Sec. 9-17s-20e. T.D. 5,410 ft.; perf. csg. 5,393-5,408 ft.; I.P. 256 B.P.D.; 12/64-in. ck.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 2 Fontenot-Ladeau, Sec. 45-3s-2e. Drk.

Continental Oil Co. No. 3 Haas, Sec. 44-3s-2e. Cg. sd. 9,148 ft.; no report.

Continental Oil Co. No. 3 Ludeau-Haas, Sec. 44-3s-2e. Loc.

Continental Oil Co. No. 4 Pierre McDaniel, Sec. 45-3s-2e. Drlg. sh. 6,712 ft.

Continental Oil Co. Sec. 44-3s-2e. Loc.

Continental Oil Co. No. 1 Tate, Sec. 46-3s-2e. Oil sd. 8,891-8,904 ft.; T.D. 10,-880 ft.; P.B. to test 8,800-ft. sd.

Continental Oil Co. No. 3 Ed Tate, Sec. 45-3s-2e. Cg. 8,930 ft.

Texas Co. No. 3 Marman fee, Sec. 45-3s-2e. Drlg. sh. 8,512 ft.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co. No. 5 Buras Lv. Bd., Sec. 23-21s-30e. Loc.

Tide Water Asso. Oil Co. No. 4 Buras Levee Dist., Sec. 23-21s-20e. T. salt 3,-120 ft.; sdtrkd.; T.D. 7,185 ft.; 7-in. csg. 7,166 ft.; I.P. 246 B.P.D.; 9/64-in. ck.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 4 Calcasieu Natl. Bnk., Sec. 12-9s-6w. T.D. 8,905 ft.; P.B. 8,860 ft.; fsg. for tbg.; P.B.; sdtrkd.; T.D. 8,900 ft.; comp.; no ga.

Union Sulphur Co. No. 1 Dovaran-O'Connor, Sec. 12-9s-6w. T.D. 9,372 ft.; W. O.C.

Union Sulphur Co. No. 1 M. F. Johnson, Sec. 12-9s-6w. Drk.

Union Sulphur Co. No. 2 Miller, Sec. 7-9s-5w. Loc.

Union Sulphur Co. No. 3 Mrs. O'Miller, Sec. 7-9s-5w. Drk.

Union Sulphur Co. No. 2 Osmon, Sec. 7-9s-5w. T.D. 9,111 ft.; P.B. 5,910 ft.; sdtrkd.; T.D. 8,868 ft.; P.B. 8,332 ft.; W.O.C.

S. LOUISIANA WILDCATS

Acadia Parish

T. G. Markley No. 1 M. L. Vincent, Sec. 19-17s-1w. 10¾-in. csg. 1,416 ft.; drlg. L.&sd. 7,140 ft.

T. T. Tolson et al No. 1 J. Turner, Sec. 25-7s-1e. M.I.M.

Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. Drk.

Allen Parish

Bel Oil Corp. No. 1 J. A. Bel, Sec. 22-6s-3w. Cd. gas sd. 6,257-87 ft.; S.W. sd. 6,287-97 ft.; drlg. sh. 8,521 ft.

Assumption Parish

Shell Oil Co. No. 1 Ellis, Sec. 66-16s-14e. R.U.

Beauregard Parish

Atlantic Ref. Co. No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.

Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.

Atlantic Ref. Co. No. 1-A Rice Ld. & Lbr. Co. Sec. 22-3s-11w. T.D. 4,561 ft.; fsg.

Standard Oil Co. of Calif. No. 1 Long Bell Lbr. Co., Sec. 23-4s-9w. R.U.

Calcasieu Parish

Humble O. & R. Co. No. 1 Edgewood Ld. & Logging Co., Sec. 32-7s-10w. M.I.M.

David B. MacDaniel No. 2 Sch. Ld., Sec. 16-9s-7w. 15½-in. csg. 46 ft.; 10¾-in. csg. 1,299 ft.; T.D. 7,890 ft.; S.D.

Union Sulphur Co. No. 1 Ulrich, Sec. 19-9s-10w. R.U.

Cameron Parish

Superior Oil Co. et al No. 1 State, Grand Lake, Sec. 24-13s-4w. Drlg. sd. 8,788 ft.

Union Sulphur Co. No. 1 Sweet Lake Ld. Co., Sec. 9-12s-7w. Drlg. sd.&sdy. sh. 5,800 ft.

East Baton Rouge Parish

Danciger O. & R. Co. No. 1 D. E. McInnis, Sec. 58-7s-1e. Bldg. road.

Gulf States Expl. Co. No. 1 Greater University Lds., Sec. 48-7s-1e. Drk.

Evangeline Parish

Continental Oil Co. et al No. 1 Mrs. Lillie Manuel, Sec. 33-4s-1w. Drlg. sd. &sh. 5,445 ft.

Iberia Parish

Texas Co. No. 3-B State-Vermilion Bay. Twp. 16s-5e. T. salt 5,970 ft.; B. salt 7,540 ft.; T.D. 7,714 ft.; run 9⅝-in. csg.

Iberville Parish

Humble O. & R. Co. No. 1 Iberville Mortgage Loan Co., Inc., Sec. 74-7s-10e. 20-in. csg. 208 ft.; drlg. sh. 9,006 ft.

Shell Pet. Corp. No. 1 Natalbany Lbr Co., Sec. 18-9s-2e (tight well). Drlg. 9,867 ft.

Jeff Davis Parish

R. M. Bleakie et al No. 1 Lack-Moore Co., Ltd., Sec. 29-7s-6w. 13⅜-in. csg. 65 ft.

Union Sulphur Co. No. 1 H. B. Tietje, Sec. 36-7s-4w. Drlg. sd.&sh. 8,136 ft.

La Fourche Parish

Gulf Oil Corp. No. 1 Grandison Ld. Co., Sec. 14-20s-23e. Drlg. sh. 6,965 ft.

J. Perry Scranton No. 2 Martinez, Sec. 132-15s-17e. Bldg. rd.

Texas Co. No. 1 L.L.&E. Golden Meadows, Sec. 77-19s-21e. 9⅝-in. csg. 10,-744 ft.; cg. wtr. sd. 12,485 ft.

Orleans Parish

W. T. Burton No. 3-B Faubourg de Montluzin, Sec. 1-11s-13e. Dredge canal.
W. T. Burton No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 9,000 ft.
W. T. Burton No. 3 L.&N.R.R., Sec. 25-11s-14e. Loc.
W. T. Burton No. 2 State-Lake Pontchartrain, Twp. 10s-10e. Loc.

Plaquemines Parish

Texas Co. No. 1 L.L.&E., Bastian Bay, Sec. 43-20s-28e. 9⅝-in. csg. 9,540 ft.; T.D. 10,662 ft.; P.B. 9,900 ft.; sdtrkd. 9,895 ft.; drlg. sdy. sh.&L. 10,158 ft.

Pointe Coupee Parish

Falcon-Seaboard No. 1 J. H. Hobgood, Sec. 8-1s-7e. 10¾-in. csg. 1,456 ft.; drlg. sh. 6,130 ft.

Rapides Parish

E. J. Gann et all No. 1 Lee Lbr. Co., Sec. 9-5n-3e. Drlg. sh. 3,350 ft.
Gulf States ExplN. Co. No. 1 Jack Cappel, Sec. 37-4n-4w. R.U.
Lyons & Neely No. 1 W. P. Aertker Sec. 16-4n-1e. T.D. 4,545 ft., sh.; no report.

St. Bernard Parish

Gulf Ref. Co. No. 4-State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,632 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; drlg. sh.&L. 10,215 ft.
Vendome Pet. Corp. No. 1 Kenilworth Plantation, Sec. 59-13s-14e. 9⅝-in. csg. 10,809 ft.; cd. 10,880-10,900 ft., sdy. sh.; gas odor; cd. gas sd. 10,990-11,050 ft.; T.D. 11,469 ft.; 7-in. csg. 11,469 ft.; perf. csg. 11,200-20 ft.; flwd. S.W.; no show oil or gas; pulled tbg. in two; fsg.; P.B. 10,736 ft.; perf. csg. 10,608-26 ft.; flwg. 480 B.F.P.D.; 13/64-in. ck.; T.P. 1,000 lbs.; C.P. 800 lbs.; S.I.; 35% fluid b.s.&S.W.; 60% 34-gr. oil; tstg.; killed; reperf. csg. 10,596-10,605 ft.; flwd. 120 B.F.P.D.; ⅛-in. ck.; 70% oil, 30% B.s.&wtr.; T.P. 820 lbs.; C.P. 1,280 lbs.; prep. to kill well.
Vendome Pet. Co. No. 2 Kenilworth Plantation, Sec. 59-13s-14e. Bldg. rd.

St. Charles Parish

Texas Co. No. 1 L.L.&E. Paradis, Sec. 39-14s-20e. 9⅝-in. csg. 8,975 ft.; T.D. 10,787 ft.; twisted off D.S.; fsg.

St. James Parish

Shell Pet. Corp. No. 1 Shexnayder, Sec. 38-12s-15e. 9⅝-in. csg. 8,534 ft.; T.D. 11,002 ft.; 7-in. csg. 11,002 ft.; P.B. 10,943 ft.; perf. csg. 10,928-40 ft.; flwd. 12 bbls. dist.; 4 hrs.; 11/64-in. ck.; T.P. 4,500 lbs.; C.P. 4,600 lbs.; killed.

St. Martin Parish

Magnolia Pet. Co. No. 1 Mercelin Francois, Sec. 8-10s-7e. Drlg. sd. 9,696 ft.
Roper & Todd No. 1 Levert Plantation. Lot 40, Sec. 42-10s-7e. Drlg. sh. 6,060 ft.

St. Mary Parish

Phillips Pet. Co. No. 1 Whitney Natl. Bnk., Sec. 13-15s-12e. Drlg. sh. 11,644 ft.; no report.

Terrebonne Parish

Texas Co. No. 2 State-Coon Point, Twp. 23s-14e. 13⅜-in. csg. 1,900 ft.; T.D. 2,851 ft.; driving piling; bldg. drk.

Vermilion Parish

La. Ld. & ExplN. Co. No. 1 La. Fur. Co., Sec. 21-15s-1e. T.D. 1,457 ft.; rep. rig.

TEXAS

Week Ending April 29

GULF COAST FIELDS

Old Ocean—Brazoria County

Harrison & Abercrombie No. 5 Armstrong, Polly & Chance Sur. T.D. 10,365 ft.; tstg.
Harrison & Abercrombie No. 2 Larsen et al, C. Breen Sur. Loc.
Harrison & Abercrombie No. 1 C W Markle, Polly & Chance Sur. Drlg. sh. &L. 5,726 ft.
Harrison & Abercrombie No. 4 Chenault, C. Breen Sur. 13⅜-in. csg. 1,523 ft.; drlg. sd.&sh. 10,136 ft.
Sun Oil Co. No. 1 Borsodi-Elkins, C. Breen Sur. 18⅝-in. csg. 121 ft.; 9⅝-in. csg. 7,010 ft.
Sun Oil Co. No. 3 Campbell, C. Breen Sur. Loc.

Cedar Point—Chambers County

Standard Oil Co. of Calif. et al No. 46-120 State. Loc.
Standard Oil Co. of Texas et al No. 56-94 State. T.D. 6,950 ft.; P.B. 4,300 ft.; sdtrkd.; cd. sd. 5,930-6,050 ft.; T.D. 6,399 ft.; 7-in. csg. 4,400 ft.; perf. csg. 3,957-70 ft.; tstd. S.W.; made sqze. job; W.O.C.

Seabreeze—Chambers County

Sun Oil Co. No. 4-A Hebert-Broussard, T.&N.O. Sur. No. 127. T.D. 8,486 ft.; cmtd. csg. on bttm.; tstg.
Sun Oil Co. No. 1 Pipkin, W. M. Mays Sur. No. 104. T.D. 8,640 ft.; perf. csg. 8,320-55 ft.; tstd. S.W.; reperf. csg. 8,320-35 ft.; flwg. oil and S.W.; tstg.

West Columbia—Brazoria County

Texas Co. No. 5 Goldman, G. Tennille Sur. T.D. 4,381 ft.; cutting and pulling D.P.; cleaned hole to 3,029 ft.; prep. to sdtrk.

Caplen—Galveston County

Sun Oil Co. No. 1 Hudnall, Finn & Foreman, S. F. Hughes Sur. Rec. 115 ft. P.L.O.; D.S.T. 7,135-48 ft.; cg. S.W. sd. 7,250 ft.

Dickinson—Galveston County

Pure Oil Co. No. 1 Franz Kohfeldt et al, T. W. Johnson Sur. Loc.

League City—Galveston County

Geo. H. Echols No. 4 Ross-Stewart, Perry & Austin Sur. No. 3. Drlg. sh. 3,312 ft.
Phillips Pet. Co. No. 1 Bertha Lobit Wilson, Perry & Austin Sur. Cg. sd.&sh. 10,460 ft.
Phillips Pet. Co. No. 1 Bryan, Perry & Austin Sur. R.U.&S.D.
Salt Dome Oil Corp. No. 3 Ross-Stewart, Perry & Austin Sur. 10¾-in. csg. 3,100 ft.
West Prod. Co. No. 1 fee, Lot 2, Blk. 5, Perry & Austin Sur. Loc.

Bammel—Harris County

H. M. Harrell et al No. 1 E. Phipps et al, H.T.&B. Sur. No. 1. T.D. 6,188 ft.; 5½-in. csg. on bttm.; W.O.C.

Clear Lake—Harris County

Humble O. & R. Co. No. 7-C Humble-West fee, J. Lindsey Sur. T.D. 5,841 ft.; T. sd. 5,709 ft.; perf. csg. 5,823-35 ft.; make sqze job; reperf. csg.; swbg.

Clinton—Harris County

Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.

Eureka—Harris County

Jack Frazier No. 1 W. T. Helberg, H. Reinerman Sur. R.U.
J. W. Frazier No. 3 Lena Dunn, H. Reinerman Sur. 10¾-in. csg. 2,509 ft.; drlg. plug.
Houston Oil Co. No. 3 Helberg & Lackner, J. Reinerman Sur. Loc.
Means & McGehee No. 1-F Laura Lackner. Drk.

Fairbanks—Harris County

Sinclair Prairie Oil Co. No. 3 Goodvkoontz, W. S. Powell Sur. T.D. 6,836 ft.; 5½-in. csg. on bttm.; W.O.C.
Sinclair Prairie Oil Co. No. 2 Jahnke, S. Lewis Sur. 9⅝-in. csg. 1,200 ft.; drlg. plug.

Friendswood—Harris County

Humble O. & R. Co. No. 19-B Humble-West, Luke Hemenway Sur. T.D. 6,044 ft.; W.O.C.
Humble O. & R. Co. No. 23 Humble-West fee, Luke Hemenway Sur. Drlg. sh. 4,339 ft.
Humble O. & R. Co. No. 24-B Humble-West fee, Luke Hemenway Sur. T.D. 6,062 ft.; pulling tbg.
Humble O. & R. Co. No. 1 Keller, T. Choate Sur. Drlg. sh. 4,060 ft.
Humble O. & R. Co. No. 2 West Prod.-Herman Hospital, T. Choate Sur. Drlg. sh. 2,730 ft.

Satsuma Field—Harris County

Amerada-Stanolind O. & G. Co. No. 1-A W. S. Jacobs, W.C.R.R. Sur. No. 2. S.D. 6,906 ft.

Cheek—Jefferson County

Humble O. & R. Co. No. 3 Broussard Tr., C. Hillebrandt Sur. Drlg. sh. 3,010 ft.
Humble O. & R. Co. No. 2 Fallor, C. Hillebrandt Sur. T.D. 7,716 ft.; 5½-in. csg. 7,715 ft.
Humble O. & R. Co. No. 4 Jefferson Ld. Co., C. Hillebrand Sur. R.U.
Shell Pet. Corp. No. 1 Steinhagan, Wm. Carr Sur. T.D. 7,720 ft.; made sqze. job; P.B. 7,718 ft.; tstg.

La Belle—Jefferson County

Sun Oil Co. No. 5 Broussard-Hebert, T. &N.O. Sur. No. 207. 18⅝-in. csg. 130 ft. T.D. 7,650 ft.; cmtd. 9⅝-in. csg. on bttm.; T.D. 8,284 ft.; S.D.

Esperson—Liberty County

General Crude Oil Co. No. 2-B Esperson, A. McNeil Sur. 10¾-in. csg. 1,396 ft.; drlg. sh. 7,112 ft.

Hardin—Liberty County

J. W. Frazier No. 3 Lynott & Buffam, H. B. Johnston Sur. Cd. O.S. 7,623-40 ft.; comp.; no ga.
Gulf Oil Corp. No. 4 Cessna, H. B. Johnston Sur. R.U.
Humble O. & R. Co. No. 2 Partlow, H. B. Johnston Sur. Drlg. sh. 3,212 ft.
Texas Co. No. 1 Geraldine Humphreys, F. Hardin Sur. Drlg. sh. 7,657 ft.

Orange—Orange County

Gulf Oil Corp. No. 2-D Chesson, Wm. Dyson Sur. Drlg.. sh. 5,896 ft.
Gulf Oil Corp. No. 10-A Winfree, Wm. Dyson Sur. Loc.
John Mayo No. 1 M. J. Williams, Dyson Sur. R.U.
Union Prod. Co. No. 5 Lutcher Moore, J. Dyson Sur. T.D. 7,304 ft.; 7-in. csg. 6,038 ft.; perf. csg. 5,955-58 ft.; tstd. S.W.; reperf. csg.

Port Neches—Orange County

Texas Co. No. 14 H. J. Kuhn, Mary E. Hall Sur. Drlg. sd. 3,412 ft.

Ace—Polk County

Dick Schwab No. 1-C Kirby-West Lbr. Co., G. A. Thomas Sur. Loc.
Shell Pet. Corp. No. 2 Doucett, P. A. Sublett Sur. Loc.

Segno—Polk County

Gulf Oil Corp. No. 4 Quinn, A. Morales Sur. R.U.
Gulf Oil Corp. No. 1 Ragan, I.&G.N. Sur. No. 15. R.U.
Gulf Oil Corp. No. 5 Ragan, I.&G.N. Sur. No. 15. Drlg. sh.&L. 2,330 ft.
Gulf Oil Corp. No. 18 Wing, I.&G.N. Sur. Drlg. sh.&L. 7,439 ft.
Humble O. & R. Co. No. 12-B Kirby Lbr. Co., M. Victor Sur. 10¾-in. csg. 2,166 ft.

Spurger—Tyler County

Republic Prod. Co. No. 20 fee, N. Hurd Lge. Spd.

Katy—Waller County

Magnolia Pet. Co. No. 1 Allsup, E. B. Conch Sur., Sec. 108. Drlg. sd.&L. 6,830 ft.

GULF COAST WILDCATS

Brazoria County

Brown & Wheeler No. 1 Lloyd Callahan, Lot 194, J. M. O'Donnell Sur. Loc.
Crosby Drlg. Co. No. 1 Geo. S. Wilson, A. C. Reynolds Sur. 10¾-in. csg. 2,925 ft.; T.D. 9,504 ft.; 7-in. csg. on bttm.; perf. csg. 9,463-69 ft.; flwd. S.W.; ¾-in. csg. ck.; perf. csg. 8,870-80 ft.; flwd. S.W.; perf. csg. 8,842-52 ft.; tstd. S.W.; S.D.
Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.
Hamman Explth. Co. No. 1 Darrington, Achilles McFarland Sur. 10¾-in. csg. 1,200 ft.; T.D. 8,887 ft.; 7-in. csg. 8,887 ft.; lower 30 ft. of csg. perf.; well flwd. gas and dist. and went dead; pld. tbg.; drld. deeper; stk. core bbl.; fsg.
Hamman Explth. Co. No. 2 Darrington State Prison Farm, F. Bingham Sur. Dig pits.
Texas Co. No. 7 Freeport Sulphur Co., C. Ariola Sur. 10-in. csg. 1,168 ft.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
Housh & Thompson No. 1 Robbins, Edw. T. Branch Sur. 10¾-in. csg. 2,247 ft.; drlg. sh. 3,310 ft.

Fort Bend County

Atlati Roy. Corp. and Adams O. & G. Co. No. 1 C. H. Stancl, F. F. E. Alcorn Sur. R.U.
Royal O. & G. Co. et al No. 1 W. T. Bertrand, J. Wilkins Sur. R.U.

Harris County

Housh & Thompson No. 1 Hine, A. McCormick Sur. 10¾-in. csg. 537 ft.; drlg. sh. 3,820 ft.
Midwest Royalty Co. No. 1 Westmoreland Farms, Lot 12, Blk. 39, James Wells Sur. Cg. sh. 9,450 ft.
J. H. Woodard, Jr., No. 1 Miller Est., John Skorupski Sur. Drlg. sh. 3,967 ft.
Texas Gulf Prod. Co. No. 1 Weary, C Lot 2, E. Fareas Sur. 10¾-in. csg. 996 ft.; cg. sh.&sd. 7,120 ft.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.
Humble O. & R. Co. No. 15-B McFaddin Beach State, Gulf of Mexico, 660 ft. NW of No. 13-B. Loc.

Liberty County

Woodley Pet. Co. No. 1 Barrett, Rebecca Coleman Sur. R.U.

Madison County

A. O. Phillips et al No. 1 E. P. McWhorter, Amy Boatright Sur. Loc.

Matagorda County

Pierce Est. No. 1-P fee, B. J. Rawls & O. Stout Sur. T.D. 8,014 ft.; P.B.; sdtrkd. at 4,435 ft.; cg. 4,657 ft.
Sun Oil Co. No. 1 Cavallin, Theo. F. Koch subd., John Duncan Sur. 9⅝-in. csg. 8,502 ft.; T. gas sd. 9,313 ft.; T.D. 9,582 ft.; 7-in. csg. 9,582 ft.; perf. csg. 9,300-18 ft.; flwg. gas, mud, and S.W.; ¼-in. ck.; T.P. 2,200 lbs.; C.P. 1,950 lbs.; killed; reperf. csg. 8,940-65 ft.; C.O.; showing wash wtr.; ½-in. ck.; flwd. 150 B.F.P.D., 75% S.W., 25% dist.; 11/64-in. ck.; T.P. 3,800 lbs.; C.P. 3,900 lbs.; killed; P.B. 9,039 ft.; reperf. csg. 8,620-45 ft.; flwd. 58 B.F., 34 bbls. dist., 24 bbls. S.W.

Montgomery County

O. C. Garvey et al No. 1 Foster Lbr. Co., Neil Martin Sur. Spd.

Newton County

Sun Oil Co. No. 1 Peavy-Moore Lbr. Co., T.&N.O.R.R. Sur. T.D. 7,700 ft. (cor.); P.B. 7,010 ft.; sdtrkd.; drilled into old hole 7,260 ft.; P.B.; sdtrkd. 6,970-78 ft.; T.D. 7,459 ft.; tstd. S.W.; D.S.T. 7,412-59 ft.; abd.

Orange County

C. B. Bunte, Inc., et al No. 1 Miller Vidor Lbr. Co., John M. Swisher Sur. Loc.

San Jacinto County

J. W. Frazier No. 1 Annie Smith, J. D. Martinez Sur. No. 10, Spd.

Tyler County

J. C. Bonham No. 1 Kountze, F. M. McReynolds Sur. Cg. sh. 3,768 ft.

Wharton County

Magnolia Pet. Co. No. 1 Borden, Henry Griffith Lge. R.U.

S. W. TEXAS WILDCATS

Bastrop County

Fuchs, Milliner et al No. 1 Milliner, E. Standifer Sur. R.U.
Marts & Beaven No. 1 Chiles, Wm. McLaughlin Sur. No. 11. Drlg. sh. 930 ft.

Bee County

Dirks Bros. No. 1 Page, Thos. K. Pilkington Sur. R.U.
Humble O. & R. Co. No. 1 Fox, Michael Fox Sur. Drlg. sh. 5,450 ft.
Magnolia Pet. Co. No. 1 McKinney Est., L. C. Randolph Sur. T.D. 5,385 ft.; abd.

Bell County

M. M. Gordon No. 1 Steele, Oliver T. Tyler Sur. S.D. 1,201 ft.
G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. S.D. 1,208 ft.

Bexar County

Fred Beatty No. 1 Joppich, Iginio Tejado Sur. No. 186. 6⅝-in. csg. 575 ft.; S.D. 1,120 ft.; prep. to resume drlg.
H. G. Krumm No. 1 Kempf, Samuel McCollough, Jr., Sur. 54. T.D. 770 ft.; I.P. 3 bbls.; pmpg.
L. L. Skaggs No. 1 Braubach, Fernando Rodriquez Sur. S.D. 325 ft.

Blanco County

H. C. McCart No. 1 Geo. Lester, Newton Carson Sur. No. 34. S.D. 395 ft.

Caldwell County

Ben H. Fuchs No. 1 Chamberlain, Jos. Burleson Sur. S.D. 1,535 ft.

Cameron County

V. D. Wedegartner No. 1 Barreda Townsite Co., Espiritu Santos gr. Loc.
V. D. Wedegartner No. 2 Sams, Porter subd. 4½-in. csg. 340 ft.

De Witt County

Richardson et al No. 1 W. D. McCurdy, John Hunt Sur. T.D. 150 ft.

Duval County

W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. No. 73. Loc.
Lee Corkill et al No. 1 Tomkin, P. Benavides Sur., Sec. 30. Drlg. sh. 3,212 ft.
G. C. Glasscock No. 1 Nicholas Garcia, Santa Cruz De Concepcion gr. Drlg. sh. 5,510 ft.
Gorman-Yoakam & Daubert No. 1 M. K. West, L. Gunter Sur. No. 68. Loc.
Frank Gravis No. 3 Schallert, Seale, Morris & Seale Sur. No. 2550. T.D. 3,168 ft.; P.B. 1,800 ft.; sdtrkd.; drld. into old hole 2,000 ft.; T.D. 3,168 ft.; set plug; W.O.C.; S.D. 2,869 ft.
H. H. Howell No. 1 Atlee Parr, San Andres gr. Drlg. sh. 4,639 ft.
Magnolia Pet. Co. No. 1 Denman, Santos Garcia gr. Drlg. sh. 6,011 ft.
Republic Prod. Co. No. 2 Society for the Propagation of the Faith, J. Poitevent Sur. Cg. 3,875 ft.
Rutland Oil Co. No. 1 Atlee Parr, San Andres gr. T.D. 6,145 ft.; 7-in. csg. 6,050 ft.; perf. csg. 5,955-60 ft.; swbd. wash wtr., brackish taste; S.S.O.
Texas Gulf Prod. Co. No. 1 John Dunn, Diego Ynojosa gr. Drlg. sh. 5,239 ft.
W. A. Wagner No. 1 D. J. Weikel, John H. Gibson Sur. No. 497. R.U. and S.D.

Edwards County

O. L. Alderfer and C. W. Davis No. 1 J. A. Earwood, C.C.S.D.&R.G.N.G.R.R. Sur., Sec. 158. Drlg. sh.&L. 50 ft.

Goliad County

Cron & Gracey et al No. 1 O. G. Dreier, B.S.&F. Sur. No. 7. Drlg. sh. 4,440 ft.

Gonzales County

Mudge Oil Co. No. 1 Dubose, John Waddy Sur. T.D. 2,610 ft.; abd.
H. F. Hinds No. 1 Dubose, E. G. Coffman Sur. 10-in. csg. 37 ft.; T.D. 2,696 ft.

Guadalupe County

John Hueners No. 1 Boecker, John Baker Sur. No. 26. S.D. 915 ft.
Midwestern Pet. Co. No. 3 W. K. Anderson, Green Dewitt Sur. Cd. sat. L. 2,355-66 ft.; T.D. 2,360 ft.; run 7-in. csg.
Trio Oil Co. No. 1 Jahns Herman, Jose K. Davis Sur. No. 12. Drlg. sh. 120 ft.

Hidalgo County

Rowan & Hope No. 1 Antonio Bazan, San Ramon gr., Juan Faris Sur. No. 4. Drlg. sh. 6,220 ft.

Jim Hogg County

A. W. Dillard No. 1 Julian Ramirez, John S. Williams Sur. S.D. 3,010 ft.
Imperial Oil Co. No. 1 Jose M. Gutierrez, H. Rodriquez Sur. No. 142. 10-in. csg. 40 ft.
Johnson & Robinson No. 1 Palacios, Mary Montgomery Sur. S.D. 2,843 ft.
Neal and Shaw No. 1 Armstrong, Hooper & Wade Sur. Cg. sd. 3,354 ft.

Jim Wells County

Bridwell Oil Co. No. 1 M. W. Smith, La Trinidad Sur. Spd.

F. A. Gillespie & Sons No. 1 Shear, Blk. 24, Adam Beatty & Moulton Sur. 10¾-in. csg. 999 ft.; S.D. 6,590 ft.; P.B. 4,994 ft.; sdtrkd.; redrld. 5,444 ft.; 25-min. D.S.T. 5,426-44 ft.; rec. 760 ft. P.L.O.; T.D. 5,454 ft.; perf. csg. 5,439-46 ft.; flwd. 84 B.P.D.; 7/64-in. ck.

Tom Graham No. 1 Zappe, Lavaca gr. Spd.

Gravis & Doran No. 1 Lillian Mull, J. Poitevent Sur. 10¾-in. csg. 595 ft.; T.D. 5,330 ft.; run csg.; 12-min. D.S. T 5,307-30 ft.; 7-in. csg. 5,325 ft.; flwd. 3 B.P.H.; fresh wtr. broke in; killed to make sqze. job.

Rich Irwin et al No. 1 Garcia Est., R. J. Kleberg Sur. R.U.

Magnolia Pet. Co. No. 1 J. O. Maun, Lot 6, Blk. 11. R.U.

Parr Drlg. Co. No. 1 W. K. Hoffman, LaVaca gr., Sec. 8. T.D. 5,806 ft.; 5½-in. csg. 5,806 ft.

W. R. Quinn et al No. 1 D. M. and Fritz Pundt, T. C. Wright Sur. Spd.

Sheli Pet. Corp. No. 1 2 Von Blucher. Lucinda Best Sur. Drlg. sdy. sh. 6,501 ft.

Texas Gulf Prod. Co. No. 1 A. M. Perez, La Tinaja de Lara gr. T.D. 6,862 ft.; 5½-in. csg. 6,555 ft.; perf. csg. 6,485-6,530 ft.; flwg. 2 B.F.P.H. by heads.

R. S. Waldron et al No. 1 C. B. and Peck Welhausen, Geo. Rounds Sur. Spd.

Karnes County

H. Aid et al No. 1 Kaiser, J. Poitevent Sur. Drlg. sh. 1,850 ft.

Kendall County

C. M. Dewey No. 2 Seidensticker, R. Davis Sur. No. 20. Drlg. 630 ft.

Kenedy County

Humble O. & R. Co. No. 2 Kenedy, E. L. Penascal gr. R.U.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. T.D. 6,404 ft.; acd. R.T. pmpd. 100 bbls. fluid; 36 hrs.; 3 bbls. oily emulsion, bal. S.W.; dpnd. to T.D. 6,424 ft.; hung tbg. at 6,400 ft.; S.I.; showing 250 lbs. pres. on csg.

Live Oak County

Harry Hotchkin No. 1 Hamilton Bros., H.&G.N.R.R. Sur. No. 1. Drlg. 1,210 ft.

Walter Nelson et al No. 1 Paul Zomzow, R. Triplet Sur. No. 152. Drlg. sh. 2,937 ft.

Cities Service Oil Co. No. 1 McCaslin, Henry C. Jackson Sur. T.D. 6,111 ft.; abd.

L. W. Stieren No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

Mid-Western Pet. Corp. No. 1 C. E Byrne, Geo. Pittuck Sur. S.D. 1,250 ft.

C. D. Scarborough and Biglane No. 1 Paul Foyt, James Garner Sur. No. 6. S.D. 1,228 ft.; 7-in. csg. 1,251 ft.

Shumway & Burns No. 4 Shiner, Sec. 39 of Shumway subd. of Shiner ranch. S.D. 1,860 ft.

Medina County

Maco Stewart & Son No. 1 Davis, L. A. Patillo Sur. No. 121. T.D. 1,939 ft.; abd.

F. J. Carle No. 1 Tom J. Bendale, J. Barnhart Sur. No. 593. S.D. 1,200 ft

J. I. and J. W. Cromwell No. 1 Tschirhart, I. J. Rogers Sur. No. 18. S.D. 1,110 ft.

Victor Ziegler No. 1 Paul Haby, Wm. G. Still Sur. No. 1. S.D. 1,000 ft.

Nueces County

O. W. Killam et al No. 1 F. J. Smith, E. L. Rincon de Corpus Christi gr., Sec. 30. Drlg. sh. 7,015 ft.

Seaboard Oil Co. No. 1-A John LaPrelle, Lot 9, Roberts & White subd. Rec. 630 ft. P.L.O.; D.S.T. 4,347-61 ft.; cg. sh. 5,102 ft.

Refugio County

Quintana Pet. Corp. No. 10 Williams, C. E.P.I.&M. Co. Sur. Drk.

Royal O. & G. Co. et al No. 1 Jurica, Esteban Lopez Sur. R.U.

San Patricio County

Smith O. Morgan No. 1 H., S. J. Pollan Sur. Drlg. sh. 6,847 ft.

Starr County

C. L. Foster No. 1 H. Garza, Juan Salinas Porc. No. 71. Drlg. sh. 620 ft.

Magnolia Pet. Co. No. 1 M. M. Garcia, S. Vela Porc. No. 90. T.D. 6,104 ft.; well tried to blow out; cutting and pulling D.S.; hole cleaned to 5,300 ft.

Travis County

E. A. Fields and M. T. Paine No. 1 Pete Carlson, Robt. Fletcher Sur. No. 69. S.D. 1,305 ft.

Oscar Raesz et al No. 1 J. W. Swahn, Phillips McElroy Sur. No. 16. Drlg. 575 ft.

Webb County

Johnson and Robinson No. 1 Mabel Adami, A.B.&M. Sur. No. 35. Cg. 1,010 ft.

Navarro Oil Co. No. 1 Rosa V. Benavides, Josefa Cuellar gr. T.D. 3,508 ft.; abd.

Rodney DeLange No. 1 Garcia, S.M.&S. Sur. No. 337. T.D. 3,011 ft.; tstg.

Smith & Storey No. 1 Houston Oil Co., R. O. Barnsley Sur. No. 24. T.D. 2,445 ft.; 5½-in. csg. 1,830 ft.; perf. csg. 1,834-65 ft.; S.D.

Willacy County

Cockburn et al No. 1 Yturria Ld. Livestock Co., San Juan de Carricitos gr. 10¾-in. csg. 1,228 ft.; cg. oil sd. 4,857-67 ft.; D.S.T. rec. 60 ft. oily mud; T. D. 7,714 ft.; W.O.C.

Williamson County

Burns Oil Co. No. 1 Hanson, Wm. Byerly Sur. No. 24. M.I.R.

W. O. Caffey No. 1 J. Seggern, Hardy Pace Sur. S.D. 451 ft.

WEST TEXAS WILDCATS

Andrews County

J. W. Trippiehorn No. 1 M. A. Thornberry, Sec. 2, Blk. 42-A. S.D. 4,480 ft.

Brewster County

H. D. Wilcox No. 2 Kokernot, Sec. 23, Blk. C, J. V. Massey Sur. Drlg. 700 ft.

Cochran County

T. G. Shaw, Tr., No. 1 Carrie S. Dean Lge. 94. Swbg. 12 B.F.P.H.; S.I. 5,001 ft.

Crane County

P. A. Christian No. 1 M. F. Stephenson, Cert. 2044, W. H. Bates Sur. No. 40. S.D.R. 125 ft.

Gulf Oil Corp. No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Est. 51 B.O.P.D.; U.R. 3,720 ft.

Standard Oil Co. of Texas No. 1 N. A. Adams, Sec. 12, Blk. 24-B, P.S.L. Sur. Drlg. 610 ft.

Crockett County

Hanson & Anderson No. 1 W. T. Knoelke, Sec. 30, Blk. GG, H.E.&W.T. Sur. Abd.

Humble No. 1 Ozona-Barnhart, Sec. 4, Blk. M-N, G.S.&F. Sur. Drlg. 7,519 ft.

Crosby County

Gulf Oil Corp. No. 1-C Swenson, Sec. 95, Blk. 2, H.&G.N. Sur. S.O.C. 2,062 ft.

Culberson County

Quito Oil Co. No. 1 Cameron Lbr. Co. Sec. 24, Blk. 81, P.S.L. Sur. S.D.R. 945 ft.

Dawson County

Daw-Tex Oil No. 1 J. E. Neely, Sec. 28 Blk. 35, T.&P. Sur. Cmtd. 7-in. 4,369 ft.; S.D. 4,849 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. Repg. rig. 3,662 ft.

Humble O. & R. Co. No. 1 Matador Ld. & Cattle Co., Sec. 26. Blk. 1, Shock & Arnold Sur. T.D. 7,074 ft.; drlg. plug 6,925 ft.; will perf. csg.

Ector County

Landreth Prod. Corp. No. 1-A Frank Cowden, Sec. 10, Blk. 44, T.&P. Sur. Drlg. rathole.

Lee Drlg. Co. No. 1 J. L. Johnson, Sec. 5, Blk. 42, T.&P. Sur. Loc.

M. B. K. Drlg. Co. No. 2 Gist, Sec. 9 Blk. 42, T.&P. Sur. Drlg. 3,225 ft.

S. W. Richardson No. 1 T.&P. Lds., Sec. 13, Blk. 45, T.&P. Sur. Loc.

Sloan & Zook No. 1 J. L. Johnson, Sec. 34, Blk. 43, T.&P. Sur. Loc.

El Paso County

Tri-State Oil Co. No. 1 Kinkel, R.U.S.T.; to P.B. and sdtrk.; T.D. 3,571 ft.; S. D.R. 3,571 ft.

Gaines County

Humble O. & R. Co. No. 1 W. T. Caswell, Sec. 10, Blk. 24-A, P.S.L. Sur. Drlg. 105 ft.

Osage Drlg. Co. No. 1 E. H. Jones, Sec. 20, Blk. 7-A, P.S.L. Sur. W.O.T. 4,800 ft.

Glasscock County

J. R. Petty No. 1 Joe Blake, Sec. 163, Blk. 29, W.&N.W. Sur. Drlg. 930 ft.

Shell Pet. Corp. No. 1 A. Neal, Sec. 38, Blk. 33, T.&P. Sur. Drlg. 1,567 ft.

Hockley County

Texas Co. No. 1-C Mallett, Lbr. 11. Lge. 51, Scurry C.S.L. Sur. Drlg. 4,988 ft.; S.O.

Howard County

Dick Graham No. 1 P. Johnson, Sec. 34, Blk. 32, T.&P. Sur. Loc.

Ooley & McQuain No. 1 O'Daniels, Sec. 39, Blk. 30, T.&P. Sur. S.D.O. 3,000 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp 6. S.G. 6,340-45 ft.

Haymon Krupp No. 1 Briggs, Sec. 24 Blk. 73, Twp. 7, T.&P. Sur. W.O.C. 5,365 ft.

Irion County

J. W. Ellis No. 1 Sol Mayer, Sec. 240, Blk. 1, T.&P. Sur.; 2,100-ft. test. Lost hole, skdd. 10 ft. E; D.&A. 2,438 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.&W.T. Sur. W.O.C. 4,450 ft.

Martin County

T. G. Shaw, Tr., No. 1 Wilkerson, Sec. 35-A, B.&C. Sur. Drlg. 3,873 ft.

Pecos County

Geo. T. Abell No. 1 T. A. Knapp, Sec. 22, Blk. 9, H.&G.N. Sur. Drlg. 2,285 ft.; S.S.O.

Leidecker & Cain No. 1 M. M. Lehn, Sec. 71, Blk. 10, H.&G.N. Sur. Drlg. 1,667 ft. in sd.; S.O.

Magnolia Pet. Co. No. 1 Eaton-Abell, Sec. 23, Blk. 3, H.&T.C. Sur. W.O.C. 1,825 ft.

O. E. Schade No. 1 Otis Garrett, Sec. 59½, Blk. 8, H.&G.N. Sur. Tstg. est. 35 B.O.P.D.; T.D. 2,290 ft.

Superior Oil Corp. No. 1 V. W. Crockett, Sec. 5, Blk. 110, T.C.R.R. Sur. Sp. and S.D.

Superior Oil Co. No. 1 V. W. Crockett, Sec. 7, Blk. 110, T.C.R.R. Sur. Loc.

Thomason Prod. Co. No. 1 Notions, Sec. 1, Blk. 105, W. P. Howard Sur. S.D.O. 2,744 ft.

S. Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. Rig burned; dropped baller in hole; S.D.O. 7,342 ft.

J. C. Trees No. 1 fee, Sec. 63, Blk. 3, H.&G.N. Sur. S.D.O. 2,359 ft.; 1 B.O. P.H.

C. W. Williams No. 1 J. Eaton, Sec. 1, Blk. 203, J. H. Handy Sur. S.D.O. 1,220 ft.

C. W. Williams No. 1 T.&P. Ld., Sec. 95, Blk. 3, T.&P. Sur. R.U.M.

Presidio County

L. C. Brite No. 4 fee, Sec. 113, Blk. 12, G.H.&S.A. Sur. Drlg. 5,600 ft.

Marfa Oil Co. No. 1 Fischer ranch, Sec. 31, Blk. 8, G.H.&S.A. Sur. M.I.M.

H. D. Wilcox No. 2 Jones-Coffield, Sec. 308, Blk. 4, H.&T.C. Sur. Drlg. 1,840 ft.

Reeves County

Artie Baker No. 1 J. W. Grider, Sec. 31 Blk. 58, P.S.L. Sur. S.D.R. 450 ft.

Schleicher County

Lone Star Gas Co. No. 1 Bert Page, Sec 30, Blk. L, G.H.&S.A. Sur. D.P. stk.; T.D. 5,370 ft.

Lone Star Gasoline Co. No. 2 Bert Page Sec. 46, Blk L, G.H.&S.A. Sur. Drlg. plug 5,050 ft.

Scurry County

Coffield & Guthrie No. 1 First Natl. Bk. Snyder, Sec. 29. Blk. 97. H.&T.C. Sur C.O. 2,450 ft.; T.D. 3,184 ft.

H. C. Wheeler No. 1 M. Sims, Sec. 141, Blk. 97, H.&T.C. Sur. R.U.M.

Stonewall County

Forest Dev. Co. No. 1 T. A. Ellison, Blk. D, Sec. 114, H.&T.C. Sur. Drlg. 2,563 ft.

Shell Pet. Corp. No. 1 T. K. Smith, Sec. 143, Blk. 1, H.&T.C. Sur. Loc.

Tom Green County

Lynn & Cobb No. 1 I. B. Cox, Val. Mueller Sur. No. 176. S.D.R. 208 ft.

Roush & Steward No. 1 Pugh, James Eldridge Sur. No. 73. S.D. 194 ft.; est. 10 ft. O.I.H.

Dan Short et al No. 1 J. G. Davidson, NW part of Lovie P. Moore Sur. S.D.; csg. 550 ft.

Southern Cross No. 1 Upton & Upton, Sec. 20, Blk. A, A.B.&M. Sur. Drlg. 3,157 ft.

Spinner No. 1 Reed, Mason Ferry Ranch Sur. S.D.O. 5,803 ft.; tools out of hole.

Upton County

White & Wilson No. 1 Webb, Sec. 176, Blk. 1, C.C.S.D.&R.G.N.G. Sur. D.&A. 3,310 ft.

Ward County

McQueen & Clevenger No. 1 Geo. Sealy, Sec. 47. Blk. F. G.M.M.B.&A. Sur Est. 5 B.O.P.D.; C.O. 3,042 ft. after shot.

Peerless O. & G. Co. No. 1 Texas Cotton Ind., Sec. 35, Blk. 1, H.&T.C. Sur. Drlg. 1,605 ft.

Geo. Wallace No. 1 R. Avery, Sec. 36, Blk. 1, H.&T.C. Sur. S.D.R. 1,465 ft.

Winkler County

Harding & Margan No. 1 Jenkins-Gulf, Sec. 13, Blk. 77, P.S.L. Sur. Drlg. sd. 3,390 ft.; S.O.; made several heads.

Yoakum County

Shell Pet. No. 1 Waples-Platter, Sec. 616, Tstg. 5,380 ft.; hole fills at rate of 100 ft. per hr.; making 1 baller of wtr. per hr.; P.B. 5,312 ft.; bailing.

TEXAS PANHANDLE

Collingsworth County

Johnson No. 1 Taylor, Sec. 10-17, H.&G. N. Sur. S.D. 875 ft.

Deaf Smith County

Uscan No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. U.R. 5,626 ft.

Gray County

Products O. & G. Co. No. 1 Mason Davis, Sec. 23, Blk. 23-M, H.&G.N. Sur. Loc.

Lipscomb County

Darrouzett Oil Co. No. 1 Pugh, 1½ mi. S and 1 mi. W of Darrouzette. S.D.; wtr. 3,401 ft.

E. C. TEXAS WILDCATS

Angelina County

Ginter Bros. No. 5 Copes Hrs., J. Morin Sur., 3 mi. E of Dibol. Drlg. 1,710 ft.

Ginter Bros. and Jones No. 6 Copes Hrs., J. Morin Sur., 3 mi. E of Dibol. Drk.

K. L. McHenry No. 1 J. S. Russell, A. Flores Sur., 4 mi. N of Lufkin. Tstg. 1,032 ft.; pmp. 1 B.O.P.D.; 23 bbls. wtr. P.D.

Falls County

M. A. Hayes No. 1 D. G. Wooten, J. Powell Sur., 8 mi. SE of Zott. S.D. 18 ft.; prep. to D.D.

Grayson County

John Grey No. 1 Freedman, W. S. Reeves Sur., 8 mi. NW of Denison. Drlg. 1,200 ft.

Jim McMurrey No. 1 Dr. T. J. Long, J. Garland Sur., 2 mi. S of Collinsville; 4,000-ft. test. S.D.O. 3,929 ft.

Prince Bros. No. 1 Williams, S. Nix Sur., 2 mi. NE of Van Alystine. Drk.

Ross & Marshall No. 1 J. N. Taylor, W. Moore Sur., 8½ mi. NW of Denison.

Sinclair Prairie Oil Co. No. 1 M. Williams, R. H. Sowell Sur., 1 mi. SW of Collinsville. Drk.

Henderson County

Dulup Oil Co. No. 1 S. B. Cornelius, E. Washborn Sur., 3½ mi. NW of Stackard. Drlg. 2,291 ft.

Tide Water-Seaboard-Humble No. 1 Lewis, J. K. Stokes Sur., 1 mi. N of Opelika area. R.U.

Tide Water-Seaboard-Humble No. 1 Scott, C. Robb Sur., 3 mi. SW of Opelika area. R.U.

Hill County

A. V. Abernathy and L. N. Sanders No. 1 E. M. Farrell, M. Mata Sur., ¼ mi. NE of Mt. Calm. Drlg. 340 ft.

Sykes-Brennals No. 1 Weatherly, W. O. Nerriweather Sur., 4 mi. SE of Hillsboro. Drlg. 1,650 ft.

Houston County

Cities Service Oil No. 1 C. C. Hill, J. D. Procella Sur., 2 mi. W of Grapeland. W.O.C. 6,013 ft.; T.S. 6,010 ft.

G. C. Dixon No. 1 W. Goodman, J. J. Thomas Sur., ¾ mi. E of Lovelady. M.I.M.

W. W. Henschliffe No. 1 J. Gilmore, Nathan Wade Sur., 1 mi. N of Navarro Crossing pool. W.O.C. 2,050 ft.

Kaufman County

Sam Knoerr No. 1 J. B. Hunter, P. Walker Sur., 5 mi. S of Terrell. S.D. 2,200 ft.

W. G. McGee No. 1 General American Life Ins. Co., John Baker Sur., 6 mi. W of Mabank. T.S. 3,070 ft.; S.O.; S.D. 3,093 ft.

Leon County

Humble O. & R. Co. No. 1 W. O. Harris, T. O. Harris Sur., 4 mi. NW of Navarro Crossing; offset to No. 1 Ed Swift. W.O.C. 2,917 ft.; S.O.

Humble O. & R. Co. No. 1 C. R. Polen, H. W. Sublett Sur., 4 mi. NW of Navarro Crossing pool. Drk.

J. K. Hughes No. 1 H. Pearistone, J. F. Files Sur., 4 mi. S of Keechi. R.U.

Limestone County

H. Gant No. 1 Vol De Long, P. Varela Sur., 1½ mi. NW of Thelma. Bailing and tstg. 2,975 ft.

S. A. Thompson No. 1 R. L. Nance, J. D. Brown Sur., 5 mi. SE of Thornton. D.&A. 4,832 ft.

McLennan County

C. E. Porter No. 1 B. D. Burchett, De la Vega Sur., just SE Waco. D.&A. 695 ft.

J. M. Russell No. 1 Lovelace, P. J. Menard Sur., 5 mi. SW of Waco. D.&A. 612 ft.

Nacogdoches County

D. McDaniels No. 1 T. H. Seale, J. A. Cherino Sur., just outside of city limits of Cherino. S.D. 400 ft.

Navarro County

Guy Sitton No. 1 J. P. Fortson, T. J. Chambers Sur., 4 mi. E of Alma. S.D. 628 ft.

W. H. Strong No. 1 Emma Jackson, J. McNeal Sur., 10 mi. S of Corsicana. S.D. 500 ft.

W. H. Strong No. 1 Estes Bros., Wm. Bartelles Sur., 1½ mi. SW of Roane. Drlg. 150 ft.

Rains County

McKinley & Hastings No. 1 McTaggert, B. Milder Sur., 1 mi. W of Emory. S.D. 720 ft.

Red River County

Hampton, Osteen & Wooley No. 1 J. M. Roberts, J. Ware Sur., 12 mi. N of Clarksville. Loc.

Robertson County

J. E. Cox No. 1 Sandifer, H. Henry Sur., 3½ mi. SE of Franklin. Loc.

Smith County

Dr. T. T. Grant No. 1 T. W. Thweatt, J. Burch Sur., 2 mi. NE of Garden Valley. Drk.

J. H. Thomason No. 1 J. W. Bartlett, R. H. Stewart Sur., ½ mi. SE of Jamestown. S.D. 2,083 ft.

Van Zandt County

F. A. Richardson No. 1-A B. C. Dodd, T. W. Hutchinson Sur., 2 mi. S of Grand Saline. Drlg. 4,065 ft.

NORTH TEXAS WILDCATS

Archer County

British American O. P. Co. No. 1 T. B. Wilson, Sec. 12, H.&T.C. Sur. Drlg. 4,462 ft.

G. E. Kadane & Sons No. 1 J. Hemmi, Sec. 60, Clark & Plumb Sur., Blk. 3. Drlg. 3,211 ft.

Phillips Pet Co. No. 1 J. B. Miller, Sec.

20, A.T.N.C.L. Sur. T.D. 4,006 ft.; O. W.D.D.; S.O.; to D.D. to 4,500 ft.; lost D.P.; fsg.

L. Sikes No. 1 Miller, Wm. Shaw Sur. A-378. 6⅝-in. cmtd. 5,218 ft.; drld. plug; tstd. S.W.; S.D.O.

Baylor County

British Am. O. P. Co. No. 1 J. E. Cope, Sec. 220, T.&N.O. Sur. Drlg. 5,543 ft.

British Am. O. P. Co. No. 1 F. C. Green "L," Sec. 8, H.T.&B. Sur. T.D. 4,304 ft.; S.D.O.

Clay County

Bridwell Oil Co. No. 1 Furd Halsell, Blk. 16, W.C.R.R. Sur. O.S. 4,755-93 ft.; to test; 6⅝-in. 4,758 ft.; C.O. and tstg.; flwg. by heads while swbg.

H. S. Moss No. 1 T. J. Parmley, Sec. 6s. M.G.S.L. Sur. A-308. S.D. 4,055 ft.

Hardeman County

N. Gilbert No. 1 R. Weakley, Sec. 85, H. &T.C. Sur., 4,000-ft. test. Loc.

Cooke County

Continental Oil Co. No. 1 W. M. Gwyn, F. J. Lindheimer A-576. R.U.S.

Howard & Means No. 1 W. T. Lynch, A. Edmiston Sur. A-353. Matl. for 5,000-ft. test. Drlg. 4,519 ft.

Needham & Richards No. 1 Peary, T. Toby Sur. A-1047. U.R. 6⅝-in. 1,690 ft.; T.D. 2,060 ft.

Geo. Ross & Co. No. 1 B. Inglish, G. W. McGowan A-695 Sur. 6⅝-in. csg. 1,609 ft.; S.S.O. 1,678-33 ft.; S.S.O. 1,740-41 ft.; to test.

Jack County

Rowan & Nichols No. 1 E. Hoag, M.& W. Sur. A-436. S.S.O. 3,311-25 ft.; S. D.O.; may abd. after S.S.O. tstd. wtr.

Montague County

Benton & Holmes No. 1 J. Bowers, Sec. 55, M.E.P.&P. Sur. S.S.O. 2,887-95 ft.; 6⅝-in. 2,883 ft.; tstg. est. 500 to 600 B.P.D.; D.D. to 2,950 ft.; tstg.

Cordova-Union Oil-Gillespie No. 1 Cable, Stephenson Sur., Abst. 462. Loc.

Staley Oil Co. No. 1 Nunnely, M. S. Ussery Sur. A-824. Drlg. 5,400 ft.

Wichita County

F. S. Freeland No. 1 J. D. Cooper, H. Hastle A-92; 4,000-ft. test. Spd. and S.D.

Wise County

H. Jackson No. 1 F. Neeley, Blk. 29, Matagorda Co. Sch. Ld. Spd. and S.D.

H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Lds. Pits.

Wilbarger County

Lawson & Leavell No. 16 W. T. Waggoner A. Sec. 109, H.&T.C. Sur., Blk. 14; 3,500-ft. test. Fsg. 1,332 ft.

Young County

G. E. Fagg No. 1 Gretchen Morgan, Sec. 3410, T.E.&L. Sur. Cellar.

H. M. Leidecker No. 1 J. M. Nall, Sec. 1997, T.E.&L. Sur. Drlg. 3,040 ft.

Long & Lupton No. 1 A. Crouch, I.&G. N. Sur. A-1460. 6⅝-in. 3,865 ft.; sat. L. 3,940 ft.; treating with acid; test wtr.; S.D.O.

WEST CENTRAL TEXAS DISTRICT

Brown County

T. W. Allmon No. 1 Almeda Moore, Jesse Williams Sur. No. 144, Abst. 931. S.D.R. 610 ft.

A. D. Bruce No. 1 L. J. Mauldin, Sec. 15, H.&T.C. Sur. S.D. 520 ft.

Callahan County

J. W. Dobbs Oil Corp. No. 2 Finley, Sec. 75, Bayland Orphans Home Lds. Skd. rig 50 ft.; rng. 10-in. 770 ft.

Joe Fainer No. 1 M. Guyton, John Barton Sur. No. 8, Abst. 11. S.D.O. 1,560 ft.

J. C. Jackson and Doug. Tomlingson, Jr., No. 1 T. J. Thompson, Sec. 30, B.B.B. &C. Sur. S.D. 1,900 ft.

Coleman County

Dale Smith No. 1 T. M. Hayes, Mund Gross Sur. No. 44. S.D.O. 260 ft.

Comanche County

Comanche O. & G. Co. No. 1 J. E. McGuire, C. Rockefeller Sur. No. 3. S.D. O. 2,910 ft.

E. T. DeArman No. 1 Moorman, Sec. 37, D.&D.A. Sur. S.D.O. 2,860 ft.

E. M. Howard No. 1 Union Life Ins., Lampasas C.S.L. Sur. D.&A. 561 ft.

Concho County

Clymore Co., Inc., No. 1 Hill, J. Frederick Sur. Drlg. 2,380 ft.

National Resources No. 1 Armon, Sec. 105, Blk. 72, T.&N.O. Sur. Drlg. 695 ft.

Eastland County

Dobbs Oil Co. No. 1 Greer, J. E. Hardy Sur., Ellenburger test. Tstg. 2,600 ft.; Ranger L.

G. M. Grace No. 1 J. W. Caudle, W. Mitchell Sur., Abst. 382. S.D.O. 900 ft.

Erath County

Wavne Chandler No. 1 Chandler, J. W Moore Sur., Abst. 571. S.D.O. 4,350 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J. P. Bailey Sur. 51. S.D. 3,370 ft.; S.O.

Haskell County

Amerada Pet. Corp. No. 1 Kleiner, J. M. Cass Sur. Drlg. 2,900 ft.

Hood County

Prince & Miller No. 1 J. H. Andrews, NW cor. of Geo. Sutherland Sur S.D.O. 820 ft.

Jones County

R. B. Carrol No. 1 G. Herndon, Goliad C.S.L. Sur. D.&A. 3,375 ft.

Ed. L. Evans No. 1 B. J. Crier, Sec. 8, B.A.L. Sur. S.D.O. 1,765 ft.

S. C. Herring No. 1 Guitar Est., western part of F. Sieverman Sur. No. 12. Loc.

Nolan County

Green & Owens No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. Fsg. csg. 4,464 ft.

Palo Pinto County

W. K. Gordon No. 1 J. W. Conway, Ruidosa I.R.R. Sur. D.&A. 4,035 ft.

Parker County

Brown-Gardner Bros. No. 1 Gilbert, T.& P. Sur., Abst. 1958. S.D. 2,200 ft.

Shackelford County

J. P. Alexander No. 1 Alexander, Sec. 569, T.E.&L. Sur. Fsg. 720 ft.

Fox & Rudd No. 1 Shotwell, Sec. 59, B.A.L. Sur. Fsg. 1,632 ft.

Oconee Oil Co. No. 1 Eli Jennings, Sec. 62, Blk. 14, T.&P. Sur. U.R. 1,780 ft.

C. W. Waddington No. 1 Cottle, Sec. 42, Univ. Sur. Spdg.

EAST TEXAS

(Border Counties)

Harrison County

Ark. La. Gas Co. No. 1 Jim Davis, Jas. Adams Sur. Cg. 5,968 ft.; hd. sd.; no show.

Wm. S. King No. 1 Taylor, H. Martin Sur. S.D. 3,744 ft.

Marion County—Rodessa

Ark. La. Gas Co. No. 1 Hurst, A. D. S. Coy Sur. T. Henderson sd. 6,090 ft.; T. Gloyd sd. 6,101 ft.; T.D. 6,110 ft.; set 5½-in. csg. 6,090 ft.; W.O.C.

Marion County—Other

Tom Bell No. 1 Moseley, D. Lane Sur. T.D. 2,596 ft.; S.D.

Exploroil Co., Inc., No. 1 Susie Chatten, I. N. Jones Sur. Nac. sd. 1,186-94 ft.; S.D. 2,682 ft.; W.O.

H. A. Vestal et al No. 1 Terry, Gaines Coor Sur. S.D. 1,160 ft.

Panola County

Paul Pewitt No. 1 Rushing Est., Mannon Smith Sur. Skdd. rig 150 ft. S; 9⅝-in. csg. 2,900 ft.; drlg. 3,957 ft.

Turner & Smith No. 1 J. W. Bird, G. Gillespie Sur. Drlg. 1,370 ft.

Shelby County

Earl McDaniel No. 1 C. W. McDaniel, Wm. Snider Sur. D.S. stuck 5,556 ft.

Canadian Fields

(Continued from Page 130)

drilled in. Anaconda Oil Co. No. 1, LSD 15, Section 9-22-12w4, is standing cemented at 2,505 feet and will likely be completed with rotary. California Co., Alberta subsidiary of Standard Oil Co. of California, holds about 65,000 acres on the Steveville structure and will likely drill.

Twin Dome Test

On the Twin dome structure, northeast of Turner Valley, Anglo-Canadian Oil Co. No. 1, LSD 7, Section 16-21-28w4, which got the Madison lime at 6,651 feet and discontinued drilling at 7,151 feet after encountering salt water, cemented back for a test of the Dalhousie sand. The well was gun perforated and the formation shot without developing commercial production, and the hole will likely be abandoned. The company may drill a second test higher on structure.

Drilling Credits Allowed

The Alberta Government is issuing drilling credits where a lessee has incurred expenses in drilling greater than the rental of the location affected and has not obtained commercial production. In such cases an amount not exceeding 50 per cent of the excess of expenditures over rentals may be applied to payments of rentals on petroleum and natural gas leases in other areas. It is required that the operator continue active drilling, and the grants will be discontinued when commercial production is secured.

Lloydminster Field

In the Alberta end of the Lloydminster field, Lloydminster Royalties No. 1, LSD 4, Section 36-49-1w4, is being finished to take crude production from a sand at 1,925 feet Storage tanks and pumping equipment are on the ground, and shipments of crude are being made to Regina. Shaw Petroleum No. 1 has been located a half mile south of Lloydminster Royalties No. 1, and equipment is being moved in.

CALIFORNIA GAS FIELDS

(Continued from Page 25)

in 1921 to 3,147 feet, reported frequent gas showings, but was abandoned after mechanical trouble and unsuccessful tests.

The structure has lain dormant while exploration in the San Joaquin Valley has continued. Inactivity was due principally to lack of production generally in the Sacramento Valley area, to failure of the Cretaceous to produce where tested, and to the fact there was doubtful closure of the Potrero Hills structure on the west. Some hesitancy in development was due to the lack of alignment of this range with the surrounding hills. Both topographically and structurally the Potrero Hills trend east-west, whereas the general trend in this whole region is northwest-southeast.

In spite of the unfavorable aspects, the entire structure was leased by Rio Grande Oil Co. in 1931 on the recommendations of Frank A. Morgan, then manager of production. His geological work began in 1920 when he mapped the area in company with the late W. H. Ochsner. In 1937 the lease block of 7,800 acres was transferred to Richfield Oil Corp. Then in 1938, under Mr. Morgan's supervision as manager of the exploration department of Richfield, the well was brought to completion.

Richfield Oil Corp. spudded No. 1 Potrero Hills in April, 1938, and drilled and cored to 5,334 feet. A surface string of 16-inch casing was set at 520 feet, 13⅜-inch casing was cemented at 1,175 feet, and a string of 9⅝-inch casing was cemented at 3,087 feet. After testing several lower sand zones, the hole was plugged to 3,265 feet and completed in 40 feet of Cretaceous sands between 3,225 and 3,265 feet. The initial daily production was 5,000,000 cu. ft. through a 16/64-inch bean with 475 pounds tubing pressure and 990 pounds casing pressure. The well is shut in for lack of pipe line facilities. Due to the complexities of structure the results of the test cannot be considered representative of the productive capacity of the field. An analysis of the gas shows:

Specific gravity, 0.606

Heating value: Gross 991 B.t.u. cu. ft., net 895 B.t.u. cu. ft.

	Per cent
Oxygen	0.0
Carbon dioxide	0.0
Nitrogen	8.70
Methane	88.96
Ethane	1.46
Propane	0.59
Isobutane	0.11
n-Butane	0.18
Pentanes	0.0
Total	100.00

The structure is reflected in the topography and, as indicated by surface mapping of the exposed Oligocene and Eocene strata, is an east-west trending asymmetric dome. Steep dips from 30° to 75° characterize the south flank, but the north flank is somewhat gentler, with dips averaging about 35 degrees. There is a long gentle eastward plunge. The amount of closure of the structure is uncertain due to the indefinite effects of faulting on the west end. The structure is so large and complicated by faulting and asymmetry that results of testing have not added materially to the subsurface picture.

The exposed stratigraphic section is represented by:

Pleistocene		Terrace deposits
Pliocene		Volcanics and conglomerates
Oligocene: Kirker		Tuffs, sandstones and conglomerates
Eocene: Tejon or Markley, feet	1,400±	Sandstone, minor clay and silt lenses
U. Domengine	650±	Sandstones and shales
L. Domengine-Meganos or Capay	600±	Sandstones and shales
Martinez	2,100±	Alternating shales and sandstones
Cretaceous	?	Interbedded shales and sandstones

Dr. Paul Goudkoff, paleontologist, reported the following formations penetrated: Undifferentiated Eocene 2,562-2,928 feet, Paleocene 2,988-3,077 feet, Cretaceous 3,088 feet to bottom of well, 5,334 feet. For some reason, yet unknown, the vast sedimentary series in this portion of California has yielded few oil showings, and no commercial production. However, gas in large quantities has accumulated under those conditions of stratigraphy and structure which elsewhere are favorable for production of both oil and gas.

National Fire Protection Association Program

The program for the forty-third annual meeting of the National Fire Protection Association at Chicago, May 8-12, includes the following:

Monday, May 8, 2:00 p.m.: Tanker Safety, by Robert E. Coombs, principal traveling inspector, Bureau of Mines Inspection and Navigation.

Thursday, May 11, 9:30 a.m.: Flammable Liquids—Committee Report. H. L. Miner, chairman; N. E. Newell, secretary. Informative progress report.

The Fire Safety Program of the Pacific Coast Oil Industry, by George F. Prussing, Los Angeles.

Gases—Committee Report. H. E. Newell, chairman. Revised regulations for liquefied petroleum gases, tank-trucks for liquefied petroleum gas, gas-fired floor heaters.

Friday, May 11, 9:30 a.m.: Tanks—Committee Report. A. L. Brown, chairman. Progress report discussing pending changes in the tank regulations.

Personal Paragraphs

LESLIE A. JOHNSTON, chief geologist for Sunray Oil Co., Tulsa, has been chosen president of the Tulsa Stratigraphic Society.

DANIEL T. PIERCE, of Sinclair Refining Co., New York, is chairman of a subcommittee on dealer relations appointed at a recent meeting of the American Petroleum Institute's central committee on public relations, held in French Lick, Ind. Other members are: JAMES TANHAM, of the Texas Co., New York; K. E. COOK, of Standard Oil Co. of New Jersey, New York, and W. R. SCHUH of National Association of Petroleum Retailers, Milwaukee, Wis. The subcommittee was authorized to work with the 13 regional committees in studying the entire problem.

ALFRED K. KRUEGER has been made general sales manager of Carson Petroleum Co., Chicago.

ELLIS STALLARD, formerly scout for Carter Oil Co. in Illinois, has been transferred to the marketing department in the Tulsa office.

G. HARRISON SMITH, president of Imperial Oil, Ltd., of Toronto, Ontario, has been elected a director of the Imperial Life Assurance Co. of Canada.

J. J. DOYLE, Lake Charles, La., independent operator, is now district land man for Phillips Petroleum Co. in coastal Louisiana. His headquarters will be in Lafayette.

JACK GAIDRY, of the Standard Oil Co. of Venezuela, and Mrs. Gaidry recently motored from New York to Shreveport, La., as part of an extended vacation in the states.

G. L. CANFIELD, of General American Oil Co., Gladewater, Tex., suffered minor hurts recently when his plane struck a derrick guy wire and crashed in an old slushpit when he was taking off from the Gladewater airport.

WALTER HOFFMAN, R. L. CASTLEBURY, JOSEPH PARR, and C. Y. SMITH, members of the oil and gas committee of the Vernon (Tex.) Chamber of Commerce, have been delegated to get the names of all employes of every oil company in Wilbarger County, as part of plans for a barbecue next September 30, at which oil-field workers and their families are to be guests.

W. B. CURREY, formerly district manager of United Gas Corp. in Marshall, Tex., has been named superintendent of the East Texas division, with offices in Beaumont. A. D. KERR, formerly operating manager, will become district manager, and H. B. CARROL, of Houston, formerly operating manager, was named general superintendent.

ROSS R. BICKEL, formerly with the Shoreline Oil Co., Shoreline, La., is now associated with the Ray Hose interests. He has gone to Gladewater, Tex., with his bride of a few days to oversee the dismantling of the old Solvex Refining Co. plant, which is being moved to Decatur, Ill., for the new company. GEORGE PFAU, former superintendent of Shoreline, has joined the Ray Hose interests also, and will superintend the building and operation of the new Decatur refinery.

DORSEY HAGER, consulting geologist and petroleum engineer of Centralia, Ill., gave a talk recently on "Petroleum Possibilities of Illinois" before a joint meeting of United Engineering Clubs of Springfield, Ill., held in the Hotel Abraham Lincoln, in Springfield. The talk was illustrated with slides.

DR. GUSTAV EGLOFF, director of research for Universal Oil Products Co., Chicago, and DR. DONALD J. BERGMAN, chief engineer, were speakers at the Houston, Tex., oil show last week. Doctor Egloff's subject was "Oil Industry Going Catalytic" and Doctor Bergman's "Modern Instrumentation for Topping, Cracking, and Polymerization Plants." On his way back to Chicago Doctor Egloff spoke Friday before the Wichita, Kans., section of the American Chemical Society on "Catalytic Reactions in Petroleum Refining."

DR. JOHN L. RICH, professor of economic geology at the University of Cincinnati and formerly active in petroleum geology in Kansas, is making an air trip around South America, accompanied by Mrs. Rich and their daughter, visiting oil fields and mining districts. In Argentina the three inspected the Commodoro Rivadavia field as guests of the Yacimientos Petroliferous Fiscales, the government's oil company, making the 1,000-mile trip on two of the company's tankers. Y.P.F. is searching for new oil fields in Argentina, and American geologists are taking an active part in the work.

W. R. FINNEY, president of Oklahoma Pipe Line Co., Tulsa, left last week for a business trip to New York.

R. T. CANTBELL has been made purchasing agent for Lisbon-Iberia Oil Corp. in New Orleans, La. He formerly was with the National Tube Co.

H. R. DICKERSON, president of Sabine Valley Gasoline Co., Inc., of Shreveport, La., has purchased a 5,000-acre plantation near that city, where he will raise high-grade cattle.

H. WILKINSON, president of Asiatic Petroleum Co., sailed from New York April 28 en route to Venezuela, where subsidiary and affiliated companies operate extensively.

HILTON KADERLI is now New Mexico scout for Skelly Oil Co., succeeding JAMES P. FORAKER, who was transferred to Shawnee, Okla. Mr. Kaderli formerly was in the company's land department in Midland, Tex.

WILMER R. SCHUH has informed directors of the National Association of Petroleum Retailers that he will not be able to serve as president of that organization after the annual convention in September. He is neglecting private business, he explained.

HARRY SMITH, drilling superintendent of the Leaseholds Oil Co. in Trinidad, British West Indies, and Mrs. Smith returned to Petrolia, Ontario, recently for several months' furlough. Mr. Smith attended the oil show in Houston, Tex., and will visit the New York World's Fair.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

In prospecting for oil in foreign countries, M. Durandin, a French geologist, is guided largely by philology. In passing through a region he makes careful inquiries for names of towns which hint of the presence of oil nearby. He has found it successful in Indo-China and in America.

T. B. Slick is the largest individual producer in the Cushing, Oklahoma, field. This field and the Healdton field have increased Oklahoma production to a new record of 236,500 bbls. per day.

20 YEARS AGO

The Bartlesville station of the U. S. Bureau of Mines has added a department for the study of drilling and production problems in the Mid-Continent fields.

Frederick W. Lehman, Jr., has succeeded R. L. Welch as secretary and general counsel of the Western Petroleum Refiners Association. Mr. Welch goes to the recently organized American Petroleum Institute in a similar capacity.

The Roxana Petroleum Corp. (Royal Dutch-Shell) has established executive offices in St. Louis, Mo., because of its central location. The company is operating from Montana to New Orleans.

10 YEARS AGO

Benjamin F. Harris is elected president of the Oil Well Supply Co.

Keith Clevenger will become director of publicity and advertising for the American Gas Association on June 1. Mr. Clevenger is now with the Empire companies at Bartlesville.

The merger of the Marland Oil Co. and Continental Oil Co. will soon be consummated. It will make a $200,000,000 company, producing, transporting, refining, and marketing oil.

FRED KAY, vice president of Huasteca Petroleum Co., returned to New York last week after several months in Venezuela.

HOWARD KECK has been elected a director of Superior Oil Co., Los Angeles, Calif., succeeding H. M. HORTON, who resigned.

J. D. ROGERS, of Melbourne, Australia, and C. A. NICHOLS, JR., of Shanghai, China, members of the Socony-Vacuum group, have returned to their posts after a business visit to Los Angeles.

PHILLIP B. KING, stationed in Midland, Tex., with the U. S. Geological Survey, discussed "Some Features of the West Texas Permian" in a talk before the Panhandle Geological Society last Monday evening in Amarillo, Tex.

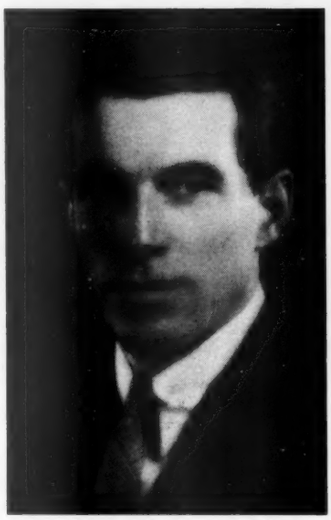
GEORGE OLDS, JR., of Continental Oil Co., Denver, Colo., is chairman of Region 2 of the regional public relations committees of the A.P.I., which includes Montana, Wyoming, Utah, Colorado, Idaho and New Mexico.

J. W. RETTIG, district land man at St. Joseph, Mo., for Phillips Petroleum Co., has been transferred to Wichita Falls, Tex., as land man in that district. H. S. KNIGHT, who was stationed in the Oklahoma City district, succeeds Mr. Rettig at St. Joseph.

J. B. WILLIAMS, manager of operations in the sales department of Union Oil Co., with offices in Los Angeles, has completed 30 years of uninterrupted service with the company. He entered the employ of the company as driver of a three-horse wagon making fuel oil deliveries in Pasadena, Calif.

Not Hard to Explain It

The flood of congratulatory messages that reached Walter C. Pew recently when he was advanced to general sales manager of the Sun Oil Co. is not hard to explain. He is credited with knowing more Sun employes in all districts than any other man. Mr. Pew entered Sun service as a scout in 1922 shortly after graduating from the Massachusetts Institute of Technology. His first work was in the Mexia and Uvalde fields of Texas. Among acquaintanceships formed then was that with John Nance Garner, now vice president. Then he worked for a while in the Sun shipyard in Chester, Pa., as a mechanic on construction and installation of the first Sun Doxford engines. In 1924 he was transferred to the marine department at Marcus Hook, Pa. Next he was placed in charge of the service station at Ardmore, Pa. Six months later he was made supervisor of a group of Philadelphia stations, and in 1928 he was named general supervisor of all stations in the Philadelphia district.



WALTER C. PEW

With this background the young man was appointed district sales manager in Trenton, N. J., with promotion in 1929 to sales manager of the Philadelphia district. In 1931 he was advanced to assistant manager of the Middle Atlantic region. In 1934 he was appointed coordinator of sales for the entire company. His latest post is a newly created one. Mr. Pew is married and has four children.

C. W. HAMILTON, assistant to the vice president of Gulf Oil Corp., New York production division, returned to New York April 21 after a trip to Venezuela.

J. W. PROFFITT, formerly buyer for the Philgas division of Phillips Petroleum Co. in Detroit, Mich., has been transferred to the Bartlesville, Okla., office.

CURTIS DALL, New York broker, was in Fort Worth, Tex., last week in connection with the formation of a company to do wildcat exploration in North Texas.

R. P. BOLTON, general manager of exploitation in Europe and the Near East for Standard Oil Co. of New Jersey, is moving his headquarters from Bucharest to The Hague.

CARL HAARMANN, of Pennzoil Co., left Los Angeles Harbor this week for Shanghai, China, where he will meet his brother, WILLIAM HAARMAN, Oriental manager.

LONNIE HUDDLESTON, formerly scout for Shell Oil Co., Inc., in the North Texas district, with offices at Wichita Falls, has resigned and will enter the oil business as an independent.

L. C. DECIUS, vice president of Tide Water Associated Oil Co., has been elected a director and vice president of West Coast Oil Co. and Pantheon Oil Co. and vice president of Sterling Oil & Development Co.

ROBERT F. HAND has been appointed general manager of the Standard Oil Co. of New Jersey's marine department, succeeding Robert L. Hague, who died recently. Mr. Hand was elected vice president and director.

ROBERT W. McDOWELL, vice president in charge of sales for Mid-Continent Petroleum Corp., sailed from New York last Saturday on the S. S. Aquitania for a business trip to England, France and other continental countries. He was accompanied by Mrs. McDowell. They will be gone a month.

H. B. FELL, executive president of the Independent Petroleum Association of America, was the principal speaker at the annual New Mexico meeting of the association, in Artesia, Wednesday of this week. He discussed national problems of the oil industry. On May 6 the New Mexico oil conference, sponsored by the University of New Mexico Oil Conservation Commission, will be held in Albuquerque. Mr. Fell will speak on "A Sound Oil Conservation Program."

E. F. SONDREGGER, general superintendent of McClanahan Refineries, Inc., St. Louis, Mich., has resigned to become associated with the newly organized Wisconsin Oil Refining Co., Milwaukee, Wis. The McClanahan and Leonard companies recently were merged, placing refineries at St. Louis and Alma under single management. D. E. FOSTER, for four years vice president and general manager of McClanahan Refineries, Inc., heads the Wisconsin company.

RUPERT P. RICKER, independent operator, who has had an interest in many of the most successful tests in South Texas, has been spending much of his time lately in McMullen County, where he plans to drill on the trend southwest of the Ezzell field.

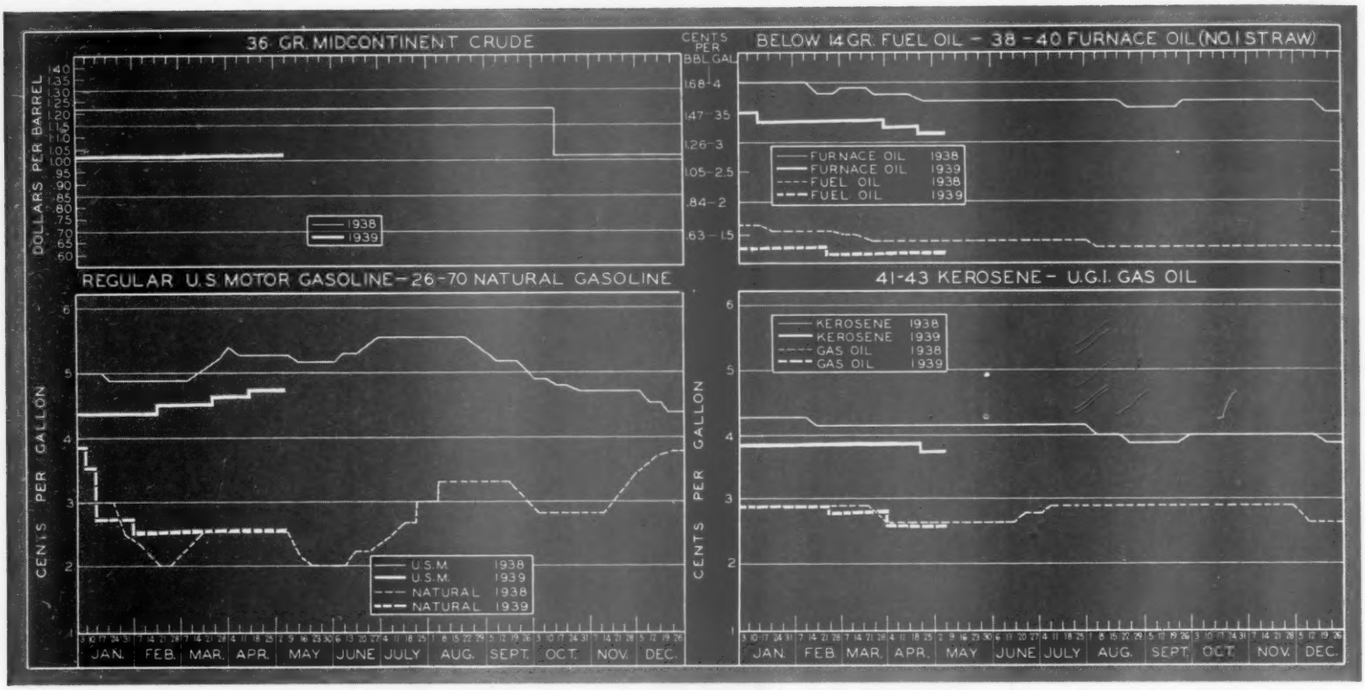
DR. NEVIN N. FENNEMAN of the University of Cincinnati, U. S. Department of Geology, was the principal speaker at a special meeting of the Kansas Geological Society in Wichita, Kans. His subject was "Some Second Thought on Cycles." Doctor Fenneman is a past president of the Geological Society of America and the author of the "Physiography of Western United States."

CHARLES J. BARKDULL, formerly treasurer and chief accounting officer of Standard Oil Co. of Indiana, was made executive vice president at a meeting of directors in Whiting, Ind., last Thursday. Mr. Barkdull's former duties were divided between RALPH E. CLARKE, who was chosen treasurer, and C. T. BERGESON, who was elected to the new office of comptroller. All other officers and directors, including EDWARD G. SEUBERT, president, were reelected. Mr. Clarke entered the service of Standard Oil 32 years ago as a stenographer. Mr. Bergeson joined the company in 1916 as a junior clerk.

L. W. BENNETT, treasurer of the Sunray Oil Co., with Mrs. Bennett, left last Thursday for Wilmington, Cal. They will visit a son at California Institute of Technology and attend the World's fair in San Francisco.

JACK M. LOFFLAND, GEORGE FAGG, B. F. WEEKLEY, and GEORGE CALVERT, Fort Worth, Tex., oil men, have sent word to friends in that city that after 10 days' travel through snow they reached Kodiak Island, Alaska, where they planned to hunt for bear and other big game. They were quartered at Madsen's Camp, on the north side of the island.

SHIFTS: W. C. VERNON, chemist Moutray Oil Co., from Abilene, Tex., to Hawley, Tex.; J. C. HOLLAMAN, engineer Texas Electric Service Co., from Fort Worth, Tex., to Dallas, Tex.; LEE HUDSON, superintendent Magnolia Petroleum Co., from Burkburnett, Tex., to Wichita Falls, Tex.; JULIAN HAWS, geologist California Co., from Crowley, La., to Thibodeaux, La.; C. L. JORDAN, C. L. Jordan Oil Production Co., from Mattoon, Ill., to Bristow, Okla.; WALLACE G. CORWIN, Deutsche Vacuum Oel, from Hamburg, Germany, to Socony-Vacuum Oil Co., Inc., The Hague, Holland; IVAN J. FENN, geologist, Subterrex Co., from Amarillo, Tex., to Pana, Ill.


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
1938
1939
CENTS PER BBL GAL
BELOW 14 GR. FUEL OIL - 38 - 40 FURNACE OIL (NO. 1 STRAW)
FURNACE OIL 1938
FURNACE OIL 1939
FUEL OIL 1938
FUEL OIL 1939
REGULAR U.S. MOTOR GASOLINE - 26 - 70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. 1938
U.S.M. 1939
NATURAL 1938
NATURAL 1939
41-43 KEROSENE - U.G.I. GAS OIL
KEROSENE 1938
KEROSENE 1939
GAS OIL 1938
GAS OIL 1939
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Buoyant Gasoline Market for Group 3 Refiners Restored as Skies Clear

By T. F. SMILEY

The Group 3 gasoline market, victim for several weeks of a grudge harbored by the weather man, was feeling better this week, and refiners showed little disposition to worry over the rather remote possibilities of trouble that might develop for them out of the tanker strike.

Pickup in Business Starts

There was no real interruption of the trend toward greater strength and higher prices, and a distinct pickup was reported as the present week opened. But unfavorable driving conditions did bring April, which started out auspiciously, to a disappointing close for many sales managers.

Some northern areas were under snow last week. Jobbers in Minnesota and northern Iowa reported their business dropped to one-third of its previous volume. Heavy rains in Illinois, Indiana, and other parts of the Group 3 consuming territory caused sharp declines in buying. The sun was shining this week, and there was an encouraging rise in inquiries, with prospects of early resumption of the buoyant market that prevailed two weeks ago. Minnesota and northern Iowa had their first inviting week-end of the year.

Notwithstanding the temporary easing in demand, no surplus stocks developed in the Mid-Continent territory. On the contrary, some buyers reported difficulty in obtaining needed material. The demand for unleaded gasoline of 63- to 70-octane rating was especially brisk, and this class of motor fuel was reported hard to get. Kansas refiners apparently were even more thoroughly sold up than those in Oklahoma. One marketer reported he had been trying unsuccessfully for a week to uncover some gasoline in that state.

The increase of 698,000 bbls. in the country's gasoline stocks in the week ending April 15 did not brighten market sentiment any of course, especially as it followed one of 458,000 bbls. the week before. In both weeks a drop in stocks, not a rise, was needed. Figures provided by the American Petroleum Institute show that most of the additional gasoline is at the East and Gulf coasts. In the Mid-Continent area there was a decline of 102,000 bbls. Although this contra-seasonal bulge in stocks is unfortunate, there is no disposition among refiners to get panicky.

Natural gasoline had a rather drab week. Demand was inactive, but quotations held around last week's mark, chiefly because the output of small plants was being absorbed by large manufacturers, who are looking ahead to next fall's needs, thus forestalling accumulation of distress stocks. Odd cars made up most of the week's movement. Shipments to the Gulf were notably small.

Heating oils might easily have sunk to even lower levels had it not been for the cold and rainy weather that swept much of the inland region. This did not impel new buying, but it helped jobbers to get rid of inventories already on hand.

Lube Oil Figures Disappointing

Statistics on lubricating oils released by the Western Petroleum Refiners Association were disappointing. Bright stock shipments from Mid-Continent refineries for the first three months of 1939 were 26.7 per cent under those in the corresponding period of 1938. First-quarter shipments of neutral oils were 1.1 per cent less than in 1938. The better showing of the neutrals as compared with the bright stocks is indicative of the trend toward lighter-grade motor oils.

Wax of 124-126 white crude scale grade jumped to the highest prices it has commanded since early 1938, being quoted at .0285 to 3 cents. Kerosene was lifeless. Tractor fuels were steady, with movement keeping up well. Heavy industrial fuels were quiet.

Refined Oil Market Barometer

Gasoline market, slowed up for a short period by unfavorable driving conditions in large inland areas, is resuming its advance, with quotations stiffening. Tanker strike tending to retard movement on Gulf Coast. All grades of fuel oil stronger on North Atlantic Coast. Light fuels softening in interior regions; heavy oils holding. Natural gasoline inactive. Wax extremely vigorous.

MID-CONTINENT. Gasoline stronger. Furnace oils easy. Naturals steady. Wax strong.

EAST COAST. Gasoline firmer. All fuel oils up. Kerosene steady.

GULF COAST. Gas oil slow. Gasoline soft. Kerosene off. General market quiet.

PENNSYLVANIA. Gasoline gaining as demand rises. Motor oils firmer.

CALIFORNIA. General market steady, but without evidence of strength.

CHICAGO. Gasoline increasingly tight, with some refiners turning down orders.

Eastern Refined Products Stage Another Rally During Week

By H. STANLEY NORMAN

NEW YORK, May 2.—Markets for several refined products staged another rally last week along the North Atlantic seaboard. Tankcar, tank-wagon and retail motor fuel prices were increased in the five boroughs of New York City April 27 by Socony-Vacuum Oil Co., Inc., and other companies met the advances.

Standard Oil Co. of New Jersey marked up practically all grades of fuel oil, Diesel oil and gas oil an eighth of a cent on April 27 to the New York terminal and tankcar trade. Essoheat light and No. 1 range oil were posted at 4⅜ cents; Essoheat medium, Essoheat heavy, "Standard" distillate fuel oil, "Standard" gas oil, Essodiesel (shore plant) and "Standard" Diesel fuel oil (shore plant) were all posted at 3⅞ cents. "Standard" industrial fuel oil was raised to 3⅝ cents.

Cities Service Oil Co. increased Bunker C fuel oil 10 cents per barrel to a new posting of $1.05 at New York and Boston. Other companies did not immediately follow, but strength of the Gulf Coast market and higher transportation costs were factors indicating the advance would become general.

In the five boroughs of New York City, with the exception of Richmond County (Staten Island), Socony-Vacuum increased the consumer tankcar price on regular motor fuel from 6.5 to 6.6 cents per gallon. The undivided dealer tank-wagon price was advanced from 7.4 to 7.8 cents and the minimum retail resale price was advanced from 10.5 to 11.3 cents. On Staten Island the tankcar price was raised from 6.5 to 6.6 cents and the undivided dealer tank-wagon posting was advanced from 7.9 to 8 cents per gallon. There is no minimum retail price fixed for Staten Island.

In lower Westchester and in Nassau County the tankcar price was left unchanged but the tank-wagon posting was raised from 7.4 to 7.8 cents to undivided dealers and the minimum retail resale price was elevated from 10.5 to 11.3 cents per gallon.

Light fuel oils, including kerosene, were in fairly strong position at New York. Consumption has been steady during the spring season since only two or three days so far have been sufficiently warm to permit discontinuance of furnace operation. The tanker strike, while not 100 per cent effective, has dislocated the routine movement of products from the Gulf Coast to North Atlantic terminals. Necessity for chartering in the open market caused by the National Maritime Union's strike against Standard Oil Co. of New Jersey, Tide Water Associated Oil Co., Socony-Vacuum and the C. D. Mallory line has caused tanker rates to move forward briskly. Boats were chartered near the end of last week at 28 cents per barrel for May loading at the Gulf and discharge north of Hatteras. The charter rate of 28 cents is an advance of 8 to 10 cents per barrel over the market of three weeks ago.

The increasing cost of transportation, coupled with the firm Gulf cargo market for bunker fuel oil, seems to be pointing inevitably to higher prices at North Atlantic terminals. Traders report bunker fuel oil is extremely difficult to locate on the Gulf Coast and that the price is firm at 75 cents per barrel. With the tanker charter rate in the range of 25 to 30 cents per barrel, the deliveries in New York at 95 cents per barrel actually constitute a loss. Some refiners have less costly fuel in terminal storage and have attempted to avoid the advance as long as possible for fear that some might consider a raise as linked to the coal and maritime strikes.

Socony-Vacuum raised No. 2 fuel oil an eighth of a cent per gallon on April 27, making the price 3¾ cents in barges. Kerosene was also boosted an eighth of a cent to 4⅜ cents in tankcars and 4¼ cents per gallon in barges. Pan American Petroleum & Transport Co. met the advances on kerosene and No. 2 fuel oil.

Standard Oil Co. of New Jersey lowered two of its light oil products a quarter of a cent per gallon at Baltimore, Philadelphia and Norfolk. The products were Essoheat light and No. 1 range oil, both of which are currently quoted at 4¾ cents in tankcars at the various points. The same two products were lowered a quarter of a cent in the second week of April at New York. The products are quoted at 4⅝ cents when sold in barges to resellers. The Baltimore and Philadelphia reductions were made effective on April 21 while that at Norfolk was made on April 26. Chartering of dirty tankers for May and June loading at Aruba and other Dutch West Indies ports and discharge north of Hatteras indicated that imports may play an increasingly important role in supplying the demand for heavy fuel oil. There were 10 or 12 tankers chartered last week for the run from the Dutch West Indies to North Atlantic ports. The highest rate reported for the Aruba to Hatteras run was 30 cents paid late last week for one boat.

Interruption of routine deliveries from Gulf Coast refineries by the tanker strike has weakened the market there slightly for light fuel oils and has arrested, temporarily at least, the upward movement of motor fuel prices. No. 2 fuel oil was reported offered by some Gulf Coast refiners at 3 cents in cargo quantities. Cargoes of kerosene were offered at 3½ cents, according to reports in New York, and some observers thought a firm bid of 3⅜ cents would attract a few suppliers. Motor fuel of 68-70 octane, unleaded, was generally held by Gulf Coast refiners at 5¼ cents to the domestic trade. Material meeting the same octane specifications but containing lead could be obtained at 5 to 5⅛ cents in cargoes for coastwise movement. One cargo of 50,000 bbls. of 72-octane gasoline was involved in an interrefinery transaction at 5½ cents.

Although some Gulf Coast refiners are in need of routine shipments to prevent exhaustion of storage facilities, most observers feel that the tanker strike will be settled in some manner before the situation becomes acute. With the summer motoring season peak at hand, the slack could be taken up in the Gulf Coast gasoline situation in a short time when full facilities of the marine departments are returned to service.

Motor oil shipments from western Pennsylvania refineries were reported at a brisk rate. In view of the increasing demand, most Pennsylvania refiners were quoting to the high side of the market range. Neutral oil of 25 pour test, 200 viscosity, was quoted by most refiners at 16½ cents. Oil meeting the same pour test but of 150 viscosity was available at 15 cents.

The wax market continues strong with some suppliers of 124-126 scale asking 2.85 cents. Several suppliers are still willing to make delivery of this material at 2.80 cents. The 122-124 grade can be obtained at 2.75 cents. Consumption is reported at high levels and shipments are in close balance with production.

The spot tankcar motor fuel market in New York is firm at the base price of 6 cents per gallon for 65-octane material. Suppliers are thinking and speaking of higher prices in the near future because of the ad-

(Continued on Page 144)

A. P. I. Weekly Refinery Statistics

Week Ending April 29, 1939

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	521,000	21,964,000	4,875,000
Appalachian	85.9	105,000	3,589,000	719,000
Indiana, Illinois, and Kentucky	89.5	488,000	15,019,000	4,818,000
Oklahoma, Kansas, and Missouri	81.6	265,000	7,866,000	3,866,000
Inland Texas	50.3	112,000	1,658,000	1,716,000
Texas Gulf	89.5	838,000	11,009,000	7,666,000
Louisiana Gulf	97.3	143,000	2,565,000	1,739,000
North Louisiana and Arkansas	55.0	40,000	470,000	749,000
Rocky Mountains	54.2	40,000	1,782,000	712,000
California	90.0	512,000	15,672,000	97,002,000
Total reported	85.8	3,064,000	81,594,000	123,862,000
East unreported	.....	341,000	5,200,000	2,850,000
*Estimated total	.....	3,405,000	86,794,000	126,712,000
*Estimated total previous week	.....	3,280,000	87,769,000	126,893,000
*April 30, 1938	.....	3,189,000	90,134,000	127,556,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending April 22, 1939	277,156,000 barrels
Week ending April 15, 1939	275,857,000 barrels
Week ending April 23, 1938	307,654,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of May 2, 1939

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank-wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Chicago, Ill.	15.1	12.1	4.0	10.0
Decatur	15.1	12.6	4.0	10.0
Joliet	15.1	12.6	4.0	10.0
Peoria	15.1	13.1	4.0	10.0
Quincy	14.9	12.9	4.0	8.7
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	9.4
Minneapolis	16.5	15.0	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.0	5.0	10.3
Milwaukee	14.9	13.4	5.0	10.2
Detroit, Mich.	13.1	11.6	4.0	7.1
Grand Rapids	14.0	12.5	4.0	9.7
Saginaw	15.8	13.1	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	15.3	5.0	†10.0
South Bend	17.1	15.6	5.0	†9.0
Fargo, N. D.	16.7	15.2	4.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.4	4.0	8.0
St. Louis*	14.2	12.7	4.0	8.0
St. Joseph	14.4	12.0	4.0	8.16
Wichita, Kans.	13.9	11.1	4.0	7.4

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective February 15, 1939, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8 cents; 150 gallons and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8.25 cents; 150-399 gallons, 7.25 cents; 400 gallons and over, 6.75 cents. Stanolex furnace oil, 1-149 gallons, 8.25 cents; 150-399 gallons, 7.25 cents; 400 gallons and over, 6.75 cents. Stanolex Grade A, 1-399 gallons, 5 cents; 400 gallons and over, 4 cents. Stanolex Grade B, 1-799 gallons, 4.75 cents; 800 gallons and over, 3.75 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank-wag. con'r.	Gasoline Di-vided dlr.	Gasoline Inc. tax	Kero. tank-wag.
Ohio points	16.0	15.0	5.0	*13.0

*Includes state tax of 1 cent.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Cons'r tank-wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank-wag.
Atlanta, Ga.	18.5	15.5	7.0	8.5
Augusta	19.5	16.5	7.0	8.0
Macon	18.0	15.0	7.0	10.0
Savannah	18.5	15.5	7.0	8.0
Birmingham, Ala.	18.5	15.5	8.0	8.5
Mobile	21.0	18.0	9.0	8.5
Montgomery	21.0	19.0	9.0	10.5
Jackson, Miss.	17.5	14.5	7.0	9.5
Vicksburg	19.0	16.0	7.0	9.0
Jacksonville, Fla.	19.5	16.5	8.0	8.0
Miami	19.5	16.5	8.0	8.0
Pensacola	20.5	17.5	9.0	8.0
Tampa	19.5	16.5	8.0	8.0
Lexington, Ky.	18.0	16.0	6.0	10.0
Covington	17.5	14.5	6.0	9.5
Louisville	17.5	14.5	6.0	9.0
Paducah	18.0	15.0	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price. Effective June 4, 1938, 2 cents per gallon discount eliminated from all kerosene markets in Mississippi, Alabama, Georgia, and Florida, markets being reduced correspondingly to a net basis.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Cons. tank-car	Gasoline Dlr. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
Atl'tic City, N. J.	10.9	12.7	4.0	7.0
Newark	10.9	12.7	4.0	7.0
Annapolis, Md.	12.85	14.35	5.0	9.5
Baltimore	12.25	13.75	5.0	7.0
Cumberland	13.65	16.15	5.0	10.0
Wash'gton, D. C.	10.50	12.0	3.0	9.5
Danville, Va.	14.45	16.95	6.0	12.9
Norfolk	13.25	15.75	6.0	11.5
Petersburg	13.55	16.05	6.0	11.7
Richmond	13.55	16.05	6.0	8.7
Roanoke	14.75	17.25	6.0	11.0
Charles'n, W. Va.	14.05	16.55	6.0	12.6
Parkersburg	13.35	14.85	6.0	11.2
Wheeling	14.35	15.75	6.0	12.2
Charlotte, N. C.	15.65	18.15	7.0	12.1
Hickory	16.15	18.65	7.0	12.5
Mt. Airy	15.95	18.45	7.0	12.3
Raleigh	15.25	17.75	7.0	11.6
Salisbury	15.75	18.25	7.0	12.2
Charleston, S. C.	14.25	16.75	7.0	10.6
Columbia	15.25	17.75	7.0	11.6
Spartanburg	15.95	18.45	7.0	12.4

Price basis to Essolene undivided dealers: Dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gallons or more, consumer tank-wagon price. Single deliveries of less than 50 gallons, 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less .5 cent per gallon. The above policy also applies in South Carolina effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank-wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	22.0	23.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

*Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

March 18, 1939, split dealer discount was canceled.

Pennsylvania, Delaware, and Part of New England

ATLANTIC REFINING CO.

	Gasoline Cons. tank-car	Gasoline Dlr. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
Philadelphia, Pa.	12.0	13.0	5.0	10.0
Pittsburgh	13.0	15.0	5.0	10.5
Allentown	12.75	14.25	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton	13.0	14.5	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.	...	13.5	5.0	10.5
Wilmington	...	12.5	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Cons. tank-car	Gasoline Dlr. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
Albany	11.5	13.5	5.0	7.25
*Met. N. Y.:				
Manhat., Bronx	11.6	12.8	5.0	7.0
Queens, Br'klyn	11.6	12.8	5.0	7.0
Staten Island	11.6	13.0	5.0	7.0
Buffalo	12.0	11.8	5.0	7.0
Rochester	12.25	12.75	5.0	8.0
Syracuse	12.0	14.0	5.0	7.5
Boston, Mass.	10.5	12.0	4.0	6.75
Portland, Me.	11.5	13.5	5.0	7.0
Manchester, N.H.	12.1	14.1	5.0	7.5
Burlington, Vt.	12.0	13.5	5.0	7.5
Springfield, Mass.	10.75	12.8	4.0	7.25
Worcester	10.75	12.8	4.0	7.25
Hartford, Conn.	10.75	12.8	4.0	6.50
New Haven	10.75	12.5	4.0	6.00
Providence, R. I.	10.5	12.3	4.0	6.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and New England points for tank-wagon delivery to the following: Annual purchases 10,000 gallons and under, tankcar price plus 2 cents per gallon; annual purchases 10,000 gallons up to 50,000 gallons, tankcar price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gallons, tankcar price plus 1 cent per gallon; annual purchases 200,000 gallons and over, tankcar price plus one-half cent per gallon. Private consumers will pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gallons will receive a discount of one-half cent per gallon.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer tax	Gasoline Inc. tax	Kero. tank-wag.
Denver, Colo.	15.5	5.0	11.5
Grand Junction	18.0	5.0	15.0
Pueblo	14.0	5.0	10.5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	15.0	5.0	13.0
Billings, Mont.	18.0	6.0	13.0
Butte	19.5	6.0	15.5
Great Falls	18.0	6.0	15.5
Helena	19.0	6.0	15.5
Salt Lake City, Utah	17.0	5.0	16.0
Boise, Idaho	†20.1	6.0	18.0
Twin Falls	†20.6	6.0	18.0
Albuquerque, N. M.	16.5	*6.5	10.0

*Includes city tax of .5 cent. †Includes state tax of 1 mill.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Cons. tank-car	Gasoline Dlr. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
New Orleans, La.	16.75	19.25	*10.0	†11.0
Baton Rouge	14.75	17.25	8.0	†10.5
Alexandria	14.75	17.25	8.0	†12.5
Lafayette	15.00	17.50	8.0	†10.0
Lake Charles	14.75	17.25	8.0	†12.5
Shreveport	13.50	16.00	8.0	†11.0
Knoxville, Tenn.	18.00	20.50	8.0	14.5
Memphis	16.00	18.50	8.0	12.5
Chattanooga	17.50	19.00	8.0	14.0
Nashville	17.00	17.50	8.0	12.0
Bristol	18.25	16.50	8.0	13.0

Essolene at dealer price less .5 cent per gallon to undivided dealers.

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gallons, consumer tankcar plus 2 cents per gallon; 50 to 199 gallons, consumer tankcar plus 1 cent per gallon; 200 gallons and over, consumer tankcar plus .5 cent per gallon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank-Wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Omaha	17.5	15.0	6.0	10.3
McCook	17.5	15.5	6.0	10.0
Norfolk	17.9	17.9	6.0	10.7
North Platte	18.3	15.9	6.0	11.1
Scottsbluff	17.0	14.9	6.0	11.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank-wag.
Texarkana, Ark.	13.0	5.0	8.0
Fort Smith	13.25	5.0	7.5
Little Rock	16.75	7.5	8.0
Muskogee, Okla.	12.5	5.0	7.0
Oklahoma City	11.0	5.0	6.5
Tulsa	12.0	5.0	6.5

Texas

	Gasoline Tank-wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Dallas, Tex.	11.0	15.0	5.0	7.0
Fort Worth	11.0	15.0	5.0	8.0
Houston	13.0	17.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N. S.	23.5	10.0	17.5
St. John, N. B.	23.5	10.0	17.5
Montreal, Que.	22.0	8.0	14.5
Toronto, Ont.	23.0	8.0	15.5
Hamilton, Ont.	23.0	8.0	15.5
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. (Kentucky) March 29 reduced net dealer and consumer tank-wagon gasoline .5 cent in Paducah; April 19, reduced net dealer and consumer tank-wagon gasoline 1.5 cents in Birmingham; April 24, advanced net dealer and consumer tank-wagon gasoline 1 cent in Savannah; April 20, advanced net dealer and consumer tank-wagon gasoline .5 cent in Jacksonville, Miami, Pensacola, and Tampa.

Continental Oil Co. April 25 advanced dealer gasoline 1 cent in Tulsa.

Imperial Oil, Ltd., April 18 advanced tank-wagon gasoline 2 cents in Quebec owing to an increase of 2 cents in tax.

Socony-Vacuum Oil Co., Inc., April 27 advanced consumer tank-wagon gasoline .1 cent in metropolitan New York; advanced dealer tank-wagon gasoline .4 cent in Manhattan, Bronx, Queens, and Brooklyn boroughs and .1 cent in Staten Island.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of May 2, 1939

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.04	.04⅛
63-66 octane	.04¼	.04⅜
67-69 octane	.04½	.04⅝
70-72 octane (regular)	.04¾	.04⅞
60-62 400 grades:		
62 octane and below	.04	.04⅛
63-66 octane	.04¼	.04⅜
67-69 octane	.04½	.04⅝
70-72 octane (regular)	.04¾	.04⅞
64-66 375	.04	.04⅛
68-70 360	.05	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04	.04⅛
63-66 octane	.04¼	.04⅜
67-69 octane	.04½	.04⅝
70-72 octane (regular)	.04¾	.04⅞
60-62 400	.04	.04⅛
64-66 375	.04	.04⅛

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04⅜	.04½
63-66 octane	.04⅝	.04¾
67-69 octane	.04⅞	.05
70-72 octane (regular)	.05¼	.05⅜

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below	.04⅛	.04¼
67-69 octane	.04⅝	.04¾

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04	.04⅛
63-66 octane	.04¼	.04⅜
67-69 octane	.04½	.04⅝
70-72 octane (regular)	.04¾	.04⅞
60-62 400 grades:		
62 octane and below	.04	.04⅛
63-66 octane	.04¼	.04⅜
67-69 octane	.04½	.04⅝
70-72 octane (regular)	.04¾	.04⅞
64-66 375	.04	.04¼
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.04½
65 octane		.06¼
68-70 octane		.06½

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06	.08
58-60 400, 65 oct. and higher	.07½	.09

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Baltimore	.06	.06¾
Charleston, S. C.	.06½	.06¾

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.04¼	.04⅜
60-64.9	.04⅝	.04¾
65 octane and higher		.04¾
68-70	.04⅞	.05⅛

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¼	.04½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.02½
Grade 18-55	.03	.03⅛

NORTH TEXAS—

Grade 26-70		.02½
Grade 18-55	.02⅞	.03

CALIFORNIA—

75-85 375-390	.06¼	.06¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.02⅞

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03⅞	.04
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.04	.04¼
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.04⅝	.04⅝

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03¾	.03⅞
42-44	.04	.04⅛

NORTH TEXAS—

41-43	.04¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04	.04¼

ARKANSAS (Ark. and N. La. del.)—

41-43		.04¼

PENNSYLVANIA (inland refineries)—

45	.05	.05⅛
46	.05⅛	.05¼
47	.05¼	.05⅝

CHICAGO (Based on Group 3)—

41-43	.03⅞	.04⅛
42-44	.04¼	.04⅜

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.05¾

NEW YORK (Bayonne, N. J.)—

41-43		.04⅜

***GULF COAST (domestic)—**

41-43		.03½

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03½	.03⅝
No. 1 prime white, 38-42	.03¼	.03½
No. 1 straw, 38-40	.03⅛	.03⅜
No. 2 straw, 32-36	.02¾	.03
No. 2 dark, 32-36	.02⅝	.02¾
No. 3 zero to 15, 28-32	.02½	.02⅝
No. 3, 15 and above, 28-32	.02⅜	.02½

NORTH TEXAS—

No. 1 prime white, 38-42	.03¼	.03½
No. 1 straw, 38-40	.03⅛	.03⅜

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03¾	.03⅝

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅜

CHICAGO (Based on Group 3)—

Range oil	.03⅝	.03⅞
No. 1 prime white, 38-40	.03½	.03⅝
No. 1 straw, 38-40	.03⅜	.03½
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03⅛	.03¼
No. 3, zero to 15, 28-32	.03	.03⅛
No. 3, 15 and above, 28-32	.02¾	.02⅞

NEW YORK (Bayonne, N. J.)—

*No. 1	.04¼	.04⅜
*No. 2		.04
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅝	.02¾
No. 4 low pourpoint, 24-28	.90	.95
No. 4, 15 and above, 24-28	.80	.85
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.45	.55

NORTH TEXAS—

U.G.I. gas oil	.02⅝	.02¾
No. 4, low pourpoint, 24-28	.90	1.00
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.45	.55

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 4, low pourpoint, 24-28	.95	1.05
No. 4, 15 and above, 24-28	.80	.90
No. 5, low pourpoint, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pourpoint, 10-16	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.04½	.04¾

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.15	1.35
24 plus Diesel, per bbl.	1.00	1.30
24 plus Diesel (bunkers)	1.15	1.50
12-16 (bunkers at tidewater)	.75	.90
10-16 (cargo lots)	.60	.80
12-17 (tankcars)	.50	.80
10-17 (high sulfur)	.45	.70
San Joaquin Valley:		
10-18 (tankcars)	.50	.80
24 plus Diesel, per bbl.	1.15	1.40
San Francisco:		
24 plus Diesel, per bbl.	1.40	1.45
24 plus Diesel (bunkers)	1.45	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.03
43-47 Diesel	.03¼	.03½
48-52 Diesel	.03½	.03⅝
53-57 Diesel	.03⅝	.03¾
Bunker C (bulk cargoes)	.72	.75
Bunker C (bunkers)		.75

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04
28-30 Diesel (lighterage 6¼c per bbl.)		1.65
28-30 Diesel (tankcars)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. Harbor)		.95
Industrial fuel (tankcars)		.03¼

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14¼	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pourpoint	.17½	.18½
15 pourpoint	.16½	.17½
25 pourpoint	.15	.15½
Steam refined:		
600	.08½	.10
650	.10½	.11
600 flash	.11	.12
630 flash	.13½	.14

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-6½		.13
400-3½		.14
100-2½ paraffin oil 15-20 pourpoint		.06
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.12½

GULF COAST—

Pale oils.		
200-3	.07	.07⅛
300-3	.07½	.07⅝
500-3½	.08½	.08¾
750-3½	.08⅝	.09⅛
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¾	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¾	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pourpoint	.18½	.19
10 pourpoint	.18	.18¾
15 pourpoint	.16½	.17
25 pourpoint	.15	.15½
200 vis. at 70° F., 3 color:		
Zero pourpoint	.19½	.20
10 pourpoint	.19	.19¾
15 pourpoint	.18½	.19
25 pourpoint	.17	.17½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.0285	.03

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0275	.0280
124-126 (a.m.p.) w.c. scale	.0275	.0280

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0350
125-127 (a.m.p.) wax		.0360
128-130 (a.m.p.) wax		.0375
130-132 (a.m.p.) wax		.0435
133-135 (a.m.p.) wax		.0465
135-137 (a.m.p.) wax		.0490
124-126 (a.m.p.) w.s.	.0255	.0260
124-126 (a.m.p.) y.s.	.0250	.0255
Petrolatum in barrels, carload lots:		
Dark green	.02	.02¼
Amber	.02⅜	.02½
Extra amber	.02⅝	.02⅝
Lily white	.05½	.05¾
Snow white	.06⅛	.06¼
Cream	.04¼	.04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04¼	.04⅜
60-62 400	.04¼	.04⅜
61-63 390	.04⅜	.04⅝
64-66 375		.04

LOS ANGELES—

U. S. Motor grades:		
55-65 octane	.04½	.04¾
65-69 octane	.04¾	.05
Above 69 octane	.05	.05½

KEROSENE

GULF COAST—

41-43 prime white		.03½
41-43 water white		.03½

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright stocks:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0455
Crude scale:		
124-126 w.s.	.0255	.0260
124-126 y.s.	.0255	.0260

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas (Oct. 11, 1938)* $1.10
Van, Tex. (Oct. 11, 1938)* ..... .93
Talco, Tex. (Oct. 11, 1938)* ..... .55
Rodessa, Tex.
See North Louisiana gravity schedule
Cass and Panola counties, Texas
See gravity schedule
Altus and Tipton† ..... See note below
Cayuga, Tex. (Feb. 15, 1939) ..... .68
Clay Creek, Tex. ..... .85

*Humble Oil & Refining Co. †Gulf Refining Co. Pure Oil Co.'s Van price, 93 cents, effective Oct. 13, 1938.

Altus and Tipton, Okla., starting at below 25 degrees at 71 cents, 2-cent spread to 40 degrees and above at $1.03. East Texas price met by all buyers posting prices. Talco price adopted by Talco Pipe Line on October 11. Cayuga posted by Pan American Pipe Line Co. Clay Creek posted by Sun Oil Co.

Southwest Texas

Salt Flat, Darst Creek, Hilbig, Carroll, Clark and Zoboroski (Oct. 11, 1938)* ..... $ .96
Pettus (Oct. 11, 1938)* 1.29
Flour Bluff (Dec. 3, 1938)* 1.23
Darst Creek (Oct. 12, 1938)† ..... .96
Darst Creek and Bruner (Oct. 13, 1938)‡ ..... .96
Luling (Oct. 12, 1938)† ..... .87
Lytton Springs (Oct. 12, 1938)† ..... .99
Mirando (Oct. 12, 1938)† .....
Government Wells (Oct. 13, 1938) .....
See note below

*Humble Oil & Refining Co. †Magnolia Petroleum Co. Pettus price adopted by Atlantic Crude Oil Purchasing Co. ‡Gulf Refining Co.

Government Wells posted by Sun Oil Co. starts at 20 gravity, 77 cents, 3-cent spread to 24-24.9 at 89 cents.

Gulf Coast

Conroe, Tex. (Oct. 11, 1938)* $1.27
Black Bayou and White Castle, La. (Oct. 11, 1938)† ..... See note below
Gibson, La. (Oct. 11, 1938)† 1.04
Garden Island, La. (Oct. 12, 1938‡ 1.24
Lafitte, La. (Oct. 12, 1938)‡ 1.04
Cleveland, Tex. (Oct. 12, 1938)¶ 1.14
Schwab, Polk County (Feb. 20, 1939) 1.00
Hardin, Tex. (Oct. 12, 1938)¶ 1.02
Tepetate, La. (Oct. 11, 1938§ 1.03
Villa Platte, La. (Oct. 11, 1938)§ 1.03
Abbeville, La. (Jan. 1, 1939)§ .....
See note below
Bosco, La. (Dec. 3, 1938)¶ ..... .93
Creole, La. (Oct. 13, 1938)¶ ..... .96
Gueydan, Sweet Lake, and Louise, La. (Oct. 13, 1938)¶ ..... See note below
Vinton, Edgerly, Starks, Hackberry, Timballier Bay, Quarantine Bay, and Grand Bay, La. (Oct. 13, 1938)** .....
Long Lake, Tex. (Oct. 13, 1938** 1.08
Segno and Wing (Oct. 13, 1938)** .....
See note below
Livingston (Oct. 11, 1938)† 1.10
Gibson, La. (Oct. 11, 1938)† 1.04

*Humble Oil & Refining Co. †Shell Oil Co., Inc. ‡Texas Co. §Continental Oil Co. ¶Magnolia Petroleum Co. ‖Pure Oil Co. **Gulf Refining Co.

Black Bayou, etc., starts at below 20 degrees at 79 cents; 20-20.9, 81 cents; 21-21.9, 83 cents, then a 3-cent spread to 26-26.9 degrees, 98 cents. Then a 2-cent spread to 40 degrees and over at $1.14. Abbeville starts at below 36 degrees, 92 cents, 2-cent spread to 40 degrees and over at $1.02. Gueydan, etc., starts below 20 degrees, 79 cents, 3-cent spread to 26-26.9 degrees at $1, and 2-cent spread to 40 degrees and over at $1.28. Segno and Wing take Gulf Refining Co.'s Gulf Coast prices. Vinton, Edgerly, etc., schedule starts at below 18 gravity, 76 cents, 2-cent spread to 20-20.9 at 82 cents; then a 3-cent spread to 26-26.9 at $1; then a 2-cent spread to 34 degrees and over at $1.16. Schwab posted by Shell Oil Co., Inc.

North Louisiana and Arkansas

Shreveport, La. (Apr. 18, 1939) ... $1.05
Smackover, Ark. (Oct. 5, 1938)* ... .73
Buckner, Magnolia, and Village, Ark. (Oct. 5, 1938)* ... See note below
Schuler, Jones sand ..... See note below
Tullos and Urania ..... .89
Cotton Valley, La. (distillate) (Dec. 23, 1938)* 1.20
Lisbon, La. (April 29, 1939) .....
See note below

*Smackover posted by Standard Oil Co. of Louisiana, October 5, 1938; by Magnolia Petroleum Co., October 12; by Gulf Refining Co., October 13; McMillan Refining Co. and Cross Refining Co. met price. Tullos and Urania posted by Hunt Oil Co. and Arkansas Fuel Oil Co.

Schuler Jones sand schedule starts at below 25 degrees, 66 cents, with 2-cent spread to 40 and over at 98 cents; by Lion Oil Refining Co. on October 5, 1938; Schuler light Morgan sand crude takes North Louisiana gravity scale along with El Dorado and Champagnolle; by Lion Oil Refining Co., October 5; Buckner, Magnolia, and Village schedules posted by Standard Oil Co. of Louisiana and Lion Oil Refining Co. on October 5; quote same prices as for Schuler Jones sand crude. Shreveport by Caddo Crude Oil Purchasing Co. and Atlas Oil Corp. Lisbon: Caddo Crude Oil Purchasing Co. posts below 34 gravity, 73 cents; 34-34.9, 75 cents; 35 and above, 77 cents.

Middle Western States

OHIO OIL CO.
(Effective October 13, 1938)

Illinois old fields 1.05
Illinois basin 1.15
Princeton, Ind. 1.05
Western Kentucky (Oct. 13, 1938)† 1.10
Birk City, Ky. (Apr. 12, 1939)† 1.00
Greendale, Poster, Crystal and Wise, Mich. (Apr. 20, 1939)*‡ 97½
Buckeye, Bentley, Edenville, Beaverton, Mich. (Apr. 20, 1939)* ..... .95
Freeman-Redding, Mich. (Apr. 20, 1939)* ..... .89
West Branch and Arenac, Mich. (Apr. 20, 1939)* ..... .74
Allegan-Kent (Apr. 16, 1939)§ ..... .88
Bloomingdale (Dec. 19, 1938) ..... .88
Muskegon 1.00
Sherman, Mich. (Apr. 20, 1939)‡ ... .89
Eastern Kentucky:
Big Sandy River† 1.12
Kentucky River† 1.20

*Simrall Corp. †Ashland Refining Co. ‡Pure Transportation Co. pays above posted prices in Porter, Greendale and Sherman, effective April 20. §Imperial Refining Co. ¶Sohio Oil Co.

Rocky Mountain States

Dry Creek, Wyo. (Oct. 11, 1938)* $ .92
Elk Basin, Wyo. (Oct. 11, 1938)*† .90
Grass Creek, light, Wyo. (Oct. 11, 1938)*† .90
Grass Creek, heavy (Oct. 11, 1938)† .40
Lance Creek, Wyo. Oct. 11, 1938)* .77
Rock Creek, Wyo. (Oct. 11, 1938)* 1.00
Iles, light, Colo. (Oct. 11, 1938)† ... .98
Iles, heavy, Colo. (Oct. 11, 1938)† .. .92
Dutton Creek, Wyo. (Oct. 11, 1938)† .....
See note below
Frannie, light, Wyo. (Oct. 11, 1938)† .55
Frannie, heavy, Wyo. (Oct. 11, 1938)† .42
Hamilton dome, Wyo. Oct. 11, 1938)† .35
Midway, Wyo. (Oct. 11, 1938)† .....
See note below
Salt Creek Tensleep crude, Wyo. (Oct. 11, 1938)† .846
Salt Creek (Oct. 11, 1938) See note below
Canon City, Colo. (Oct. 11, 1938)‡. .90
Florence, Colo. (Oct. 11, 1938)‡.. .90
Cat Creek, Mont. (Oct. 11, 1938)‡.. 1.10
Big Muddy, Wyo. (Oct. 11, 1938)‡.. .98
Lance Creek, Wyo. (Oct. 11, 1938)‡ .77
Lea County, N. M. .....
See West Texas gravity schedule‡
Artesia, Jackson and Maljamar .....
See gravity table‡
Fort Collins and Wellington, Colo.
See gravity table‡
Eddy County, N. M. (October 11, 1938)¶ 77

*Ohio Oil Co. †Stanolind Oil & Gas Co. ‡Continental Oil Co. ¶Sinclair Prairie Oil Marketing Co.

Dutton Creek and Salt Creek Tensleep crude start at below 29 degrees, 86 cents, 2 cents spread to 40 and over at $1.10. Salt Creek crude excepting Tensleep takes Standard Oil Co. of Indiana, Oklahoma-Kansas prices. Stanolind Oil & Gas Co., effective October 11, discontinued posting prices in Greybull-Torchlight, Wyo., and Hogback and Hospah, N. M.

Eastern States

SOUTH PENN OIL CO.
(Effective March 6, 1939)

Pennsylvania Grade Oil in National Transit Lines (Bradford field) $2.00
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.65
Pennsylvania Grade Oil in Eureka Pipe Line lines 1.59
Pennsylvania Grade Oil in Buckeye Pipe Line lines 1.55
Corning Grade Oil in Buckeye Pipe Line Co. line (Jan. 24) 1.02

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.
(Effective March 6, 1939)

Bradford, Pa. $2.00
Allegany, N. Y. 2.00

PENNZOIL CO.
(Effective March 6, 1939)

Group A $1.95
Group B 1.94
Group C 1.93
Group D 1.92
Group E 1.90

PURE OIL CO.
(Effective March 6, 1939)

West Virginia $1.59

West Texas

See gravity table.
Fisher County, Tex., April 1, 1939. See note below.
Pecos County (Oct. 11, 1938)* .... $ .78
Pecos shallow (Oct. 11, 1938)† .... .85

*Shell Oil Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Oil Co.
Fisher County, Tex. By Shell Oil Co. Inc., below 25 degrees 68 cents; 25 degrees, 70 cents, with 2-cent spread to 40 degrees and over at $1.

Canada

Ontario (Oct. 25, 1938)*

Petrolia $1.90
Oil Springs 1.97

TURNER VALLEY
(January 5, 1938, by Imperial Oil, Ltd.)

Clear naphtha and discolored naphtha, 65 gravity and higher ... $2.14
Discolored naphtha and crude oil, 40-40.9 gravity 1.14
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity 1.62
These prices f.o.b. producers' field tankage.

*Imperial Oil, Ltd.

Crude Oil Price Changes

Effective April 29 in the Lisbon field, Louisiana, Caddo Crude Oil Purchasing Co. reduced its posted prices 10 cents per barrel on all grades, making the new prices as follows: Below 34 gravity, 73 cents; 34-34.9, 75 cents, and 35 and above 77 cents.

Effective April 22 in the deep sand in the Thompson field, Fort Bend County, Texas, Gulf Refining Co. posted prices for the first time as follows: Below 20 gravity, 74 cents; 20-20.9 gravity, 77 cents, with 3 cents added for each degree up to and including 26-26.9 at 95 cents; then 2 cents added for each degree up to 40 and above at $1.23.

New York Market

(Continued from Page 141)

vancing cost of transporting replacement stocks. Even though the tanker strike is settled in the near future many of the boats normally available in the open market have been engaged by the struck companies for services that will keep them busy for 30 to 60 days.

Adjustments were reported last week in some of the depressed retail areas of Pennsylvania. Most refiners raised tank-wagon prices in Lancaster and at several points in Chester County, making the posting to undivided dealers 7½ cents per gallon. Market conditions are reported reasonably satisfactory in southern New Jersey, where the current price to undivided dealers ranges from 7.6 to 7.7 cents per gallon.

Kerr-Lynn Drilling Co., Oklahoma City, has been drilling No. 1 Butterly, NE NE SE Section 22-1-1, Garvin County, Oklahoma, northwest of Davis, below 4,877 feet in hard lime with nothing showing; contract depth is 5,000 feet.

Crude Prices by Gravities

	1 Oklahoma	2 Oklahoma and Kansas	3 North and Central Texas	4 Louisiana and Arkansas	5 East Central Texas	6 Gray County, Texas	7 Hutchinson and Carson counties, Texas	8 Racoon Bend, Setauna and Tomball, Texas	9 West Texas and Lea County, N. M.	10 Fort Collins and Wellington, Colo.	11 Anahuac and Dickinson, Mirando, Duval, Texas.	12 Refugio, Texas	13 Gulf Coast Texas	14 Cass and Panola counties, Texas	15 Beaumont and West Beaumont, Texas	16 Lockport, Iowa, Cameron Meadows, Louisiana	17 Artesia, Jackson and Maljamar, N. M.	18 Iowa, Louisiana
Below 18	....	....	....	....	....	....	....	....	$.53	....	$.74	$.79	$.79	....	....	$.74	....	$.75
18-18.9	....	....	....	....	....	....	....	....	.53	....	.74	.79	.79	....	....	.76	....	.77
19-19.9	....	....	....	....	....	....	....	....	.53	....	.74	.79	.79	....	$.79	.78	....	.79
20-20.9	$.60	$.70	....	....	....	....	....	....	.55	....	.77	.82	.82	....	.82	.80	....	.81
21-21.9	.63	.72	....	....	....	....	....	....	.57	....	.80	.85	.85	....	.85	.82	....	.83
22-22.9	.66	.74	....	....	....	....	....	$.95	.59	....	.83	.88	.88	....	.88	.85	....	.86
23-23.9	.69	.76	....	....	$.78	....	....	.97	.61	....	.86	.91	.91	....	.91	.88	....	.89
24-24.9	.72	.78	$.71	....	.80	....	....	.99	.63	....	.89	.94	.94	....	.94	.91	....	.92
Below 25	....	....	....	$.73	....	....	....	....	....	....	....	....	....	$.73	....	....	....	....
25-25.9	.75	.80	.73	.75	.82	....	....	1.01	.65	....	.92	.97	.97	.75	.97	.94	....	.95
26-26.9	.78	.82	.75	.77	.84	....	....	1.03	.67	....	.95	1.00	1.00	.77	1.00	.97	....	.98
27-27.9	.81	.84	.77	.79	.86	....	....	1.05	.69	....	.97	1.02	1.02	.79	1.02	.99	....	1.00
28-28.9	.84	.86	.79	.81	.88	$.72	$.67	1.07	.71	$.81	.99	1.04	1.04	.81	1.04	1.01	$.61	1.02
29-29.9	.87	.88	.81	.83	.90	.74	.69	1.09	.73	.83	1.01	1.06	1.06	.83	1.06	1.03	.63	1.04
Below 30	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
30-30.9	.90	.90	.83	.85	.92	.76	.71	1.11	.75	.85	1.03	1.08	1.08	.85	1.08	1.05	.65	1.06
31-31.9	.92	.92	.85	.87	.94	.78	.73	1.13	.77	.87	1.05	1.10	1.10	.87	1.10	1.07	.67	1.08
32-32.9	.94	.94	.87	.89	.96	.80	.75	1.15	.79	.89	1.07	1.12	1.12	.89	1.12	1.09	.69	1.10
33-33.9	.96	.96	.89	.91	.98	.82	.77	1.17	.81	.91	1.09	1.14	1.14	.91	1.14	1.11	.71	1.12
34-34.9	.98	.98	.91	.93	1.00	.84	.79	1.19	.83	.93	1.11	1.16	1.16	.93	1.16	1.13	.73	1.14
Below 35	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.00	1.00	.93	.95	1.02	.86	.81	1.21	.85	.95	1.13	1.18	1.18	.95	1.18	....	.75	....
36-36.9	1.02	1.02	.95	.97	1.04	.88	.83	1.23	.87	.97	1.15	1.20	1.20	.97	1.20	....	.77	....
37-37.9	1.04	1.04	.97	.99	1.06	.90	.85	1.25	.89	.99	1.17	1.22	1.22	.99	1.22	....	.79	....
38-38.9	1.06	1.06	.99	1.01	1.08	.92	.87	1.27	.91	1.01	1.19	1.24	1.24	1.01	1.24	....	.81	....
39-39.9	1.08	1.08	1.01	1.03	1.10	.94	.89	1.29	.93	1.03	1.21	1.26	1.26	1.03	1.26	....	.83	....
40 and over	1.10	1.10	1.03	1.05	1.12	.96	.91	1.31	.95	1.05	1.23	1.28	1.28	1.05	1.28	....	.85	....

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1939 High	1939 Low	Week ending Apr. 29 High	Week ending Apr. 29 Low	Week ending Apr. 29 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1937	Com. sh. earn. 1936	1938 High	1938 Low	1937 High	1937 Low
69½	50	64¼	60¾	61	Amerada Corp.	788,675	N.P.	50cQ	1-31-39	$2.00	$3.04	$2.52	78	55	111⅞	51½
23½	18⅞	19¼	18⅞	19	Atlantic Refining	2,663,999	$25	25cQ	6-15-39	1.00	3.51	2.59	27⅝	17¾	37	18
21½	10⅞	13⅛	12½	12½	Barber Asphalt Co.	390,223	$10	75c	12-16-37	....	1.91	1.14	23¾	12⅛	43⅜	10⅛
19½	12⅜	14⅛	13½	13½	Barnsdall Oil Co.	2,250,344	$5	25cQ	2-1-39	1.00	.85	1.01	21⅜	10⅛	35¼	10
9¼	7	7⅝	7¼	7½	Consolidated Oil Corp.	13,915,167	N.P.	20cQ	5-15-39	.80	1.48	1.18	10¾	7	17⅞	7
31½	21½	23¾	22½	22⅝	Continental Oil of Delaware	4,682,581	$5	25cQ	3-31-39	‖1.00	2.98	2.05	35¾	21¼	49	24
8⅜	4⅞	5⅝	5⅜	5½	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	.94	—.03	9¾	5	17⅝	4¾
20¼	12⅜	15	14½	14½	Lion Oil Refining	435,815	N.P.	25cQ	4-20-39	1.00	2.17	1.43	25⅛	15⅝	34	12½
16½	11⅛	13⅜	13	13	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-39	.60	2.86	2.57	22⅝	12¼	35⅜	14
14⅞	10⅜	12	11¾	11¾	Mission Corporation	1,382,945	$10	$1	6-29-38	1.00	1.31	.48	17¾	10⅝	34	15
15½	6½	9	8½	8⅝	National Supply	1,155,170	$10	$2 pf.‡	12-22-37	....	4.90	2.02	23	12½	41⅜	17⅝
10¼	6⅝	7¾	7⅛	7⅝	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	1.30	.70	14⅞	8⅞	22⅞	8
11⅞	10	10	10	10	Pacific Western Oil	1,000,000	N.P.	50c	12-20-38	.50	1.39	1.58	15⅞	10¼	29¾	11¾
6¾	5¼	..	..	..	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	....	1.18	.52	9¼	6¼	17⅛	7
43¾	31¼	35½	33	34⅝	Phillips Petroleum	4,449,052	N.P.	50cQ	6-1-39	‖2.00	5.42	4.02	44⅜	27¼	64	30⅛
22½	17¼	18¼	18	18	Plymouth Oil Co.	1,008,000	$5	35cQ	3-31-39	1.40	2.85	1.65	25⅜	15	29⅞	13
11¼	7	7⅞	7½	7¾	Pure Oil Co.	3,982,031	N.P.	25c	12-1-37	....	2.15	1.63	13½	8¼	24⅜	8¾
10¼	6⅝	7⅞	7⅜	7¾	Richfield Oil Corp.	3,896,638	N.P.	50c	12-21-38	.50	.35	....	9⅞	5	6½	4⅛
22⅝	16⅛	18½	18	18	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	6-15-39	1.00	1.97	2.00	27½	15½	54⅛	16
15⅛	11	11⅝	11⅛	11⅛	Shell Union Oil	13,070,625	N.P.	35c	12-20-38	.70	1.44	1.57	18⅜	10	34¾	14⅞
29½	18½	20	19	19	Skelly Oil	995,349	$15	50c	12-15-38	1.00	6.07	4.42	34¾	18½	60⅝	26½
13¾	10½	12	11⅝	11⅞	Socony-Vacuum	31,151,071	$15	25cSA	3-15-39	.50	1.82	1.38	16⅜	10¾	23¼	13
30⅛	25¼	26⅞	26	26⅞	Standard Oil of California	13,014,754	N.P.	30cQ†	3-15-39	1.40	3.17	1.79	34⅞	25⅛	50	27⅛
29⅛	23¼	25⅛	24¼	24¾	Standard Oil (Indiana)	15,272,020	$25	25cQ	3-15-39	1.00	3.66	3.09	35½	24¾	50	26½
50⅝	46	49½	46	46	Standard Oil of Kansas	112,837	$10	$2	12-8-38	2.00	6.93	1.91	50½	32½	43	30⅝
53¼	42½	46⅝	44⅜	45	Standard Oil of New Jersey	26,224,767	$25	50c§	12-15-38	§1.50	5.64	3.73	58⅜	39¾	76	42
66	46	54	54	54	Sun Oil	2,316,484	N.P.	25cQ	6-15-39	1.00	3.86	3.25	65⅛	45	77½	44½
3¼	2	2⅛	2	2	Superior Oil Corp.	1,388,079	$1	10c	12-28-38	.10	.32	.14	4¼	1¾	7¾	1½
48¼	35	38⅛	36½	37	Texas Corp.	10,876,882	$25	50cQ	4-1-39	2.00	5.02	4.10	49⅝	32⅝	65⅛	34¾
5¾	3½	4¼	4⅛	4⅛	Texas Gulf Producing Co.	888,142	N.P.	10c	6-15-39	.15	.68	.93	5⅞	2⅝	9⅝	2
10⅛	7½	8	7¾	7⅞	Texas Pacific Coal & Oil	888,236	$10	10c	6-1-39	.40	1.11	.72	12½	7	16⅝	5⅝
14¼	11¼	12¼	11⅞	12	Tide Water Associated	6,375,253	$10	25c	3-1-39	1.00	2.08	1.03	15⅝	10⅛	21⅝	13⅛
19¾	16½	16¾	16⅜	16½	Union Oil of California	4,666,270	$25	25c	5-10-39	1.20	2.58	1.40	22½	17⅛	28¼	17½
23⅝	20⅛	20⅝	20¼	20⅝	Union Tank Car Co.	1,177,381	N.P.	30cQ	3-1-39	1.30	1.70	1.76	23½	20	31½	22
3¾	2½	2¾	2½	2¾	Wilcox Oil & Gas	506,522	$5	....	5-10-28	....	.24	—.06	3½	1⅝	6¼	1¾

*Payable in 3½ per cent notes. †Includes extras. ‡One-tenth share $2 preferred stock. §Also 1½ per cent stock dividend. ‖Also right to subscribe to bonds.

New York Curb Exchange

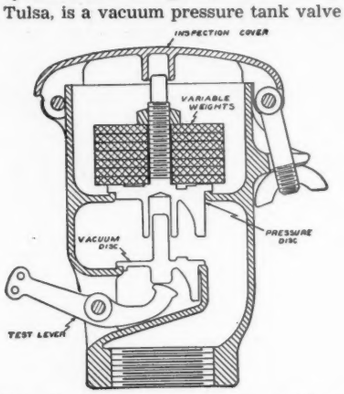
1939 High	1939 Low	Week ending Apr. 29 High	Week ending Apr. 29 Low	Week ending Apr. 29 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1937	Com. sh. earn. 1936	1938 High	1938 Low	1937 High	1937 Low
9	5½	7	6⅝	7	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	$0.27	$0.28	11¾	5	10	6⅝
7¼	3½	4⅛	4⅛	4⅛	Bridgeport Machine Co.	260,000	N.P.	$1.25	12-30-37	....	1.90	1.26	10¼	4⅞	21⅜	7
34¾	27¼	..	..	..	Buckeye Pipe Line Co.	200,000	$50	50c	3-15-39	2.00	4.02	4.40	39	22½	51½	36
130	110	113	111	113	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	3-27-39	6.50	6.73	7.46	128	97	112	95½
9¼	6	6⅝	6¼	6⅝	Cities Service (new)	3,714,317	$10	....	6-1-32	....	1.02	.13	11	5½	5⅜	1½
1⅛	1½	1	⅞	1	Cosden Petroleum	462,551	$1	....	.....	....	.19	...	2⅜	⅞	5½	1½
23¾	17½	20¼	19	20	Creole Petroleum	6,975,383	$5	50cSA†	12-15-38	1.00	1.61	1.23	27½	17½	38¾	20¼
7⅛	5	..	..	..	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	1.36	1.26	10¼	5½	18⅝	6½
2¼	1⅝	2⅛	2⅛	2⅛	Derby Oil & Refining	263,162	N.P.	....	.....	....	1.34	.66	3½	1½	8⅜	2¼
20	17½	..	..	..	Eureka Pipe Line	50,000	$50	50c	2-1-39	3.00	—.12	—.62	31	16	47½	24½
34	31½	34	31½	31⅝	Gulf Oil Corp.	9,076,202	$25	25cQ	4-1-39	1.00	3.51	2.90	46⅞	33	63½	33
69⅜	53	60⅛	57½	57½	Humble Oil & Refining	8,987,840	N.P.	37½c	4-1-39	3.00	5.22	3.80	72⅝	56	87	54⅞
17	14⅜	16	15¼	15¾	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	12-1-38	1.25	.98	.95	19½	14⅛	24¼	14½
7	6	6	6	6	Indiana Pipe Line	300,000	$10	30c	5-15-39	.50	1.03	1.00	9⅜	6	15	5⅞
27½	22⅜	25	24¼	24¾	International Petroleum	14,324,088	N.P.	$1.25†‡	12-1-38	2.50	....	1.81	31¼	21	39½	23½
3½	2¼	2½	2¼	2½	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	.10	.17	.20	5	2⅛	8¾	2⅝
9½	7½	9	7⅝	8¾	Lone Star Gas	5,553,747	N.P.	20c	4-20-39	.60	1.14	1.02	10⅜	6⅝	14¼	5¼
7¾	4⅞	5¾	5½	5½	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	3-15-39	.45	.58	.64	9⅜	6½	15¼	6¾
17	15	16	15¾	16	Margay Oil Corp.	149,918	N.P.	25cQ	4-10-39	1.00	3.26	1.19	24	16	33½	17
8¾	7	7½	7⅛	7⅛	Midwest Oil Co.	998,474	$10	50c	12-15-38	1.00	1.14	.95	9¾	6⅝	14⅜	6¼
5½	4⅞	5	4⅞	4⅞	Mountain Producers	1,593,584	$10	30cSA	12-15-38	.60	.76	.62	5¾	4½	7⅞	4⅛
13¼	11¼	12	11⅝	11¾	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-39	1.00	.96	1.19	14⅝	11½	19½	12
8½	7¼	8	7¾	7¾	National Transit	509,000	$12.50	40c	12-15-38	.75	1.19	.79	9¼	6½	12½	7¼
1¾	1½	1½	1½	1½	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	2⅝	1½	5	1⅜
4⅞	4	..	..	..	New York Transit	100,000	$5	15c	4-15-39	.25	.49	.34	4½	3½	5⅜	3⅞
5¾	4½	..	..	..	Northern Pipe Line	120,000	$10	15c	6-1-39	.35	.78	.66	6	4	12¾	5¾
7⅝	4¼	5	4¾	4¾	Pantepec Oil	2,441,142	$1	....	.....	....	....	.05	7¾	3½	9⅝	2¾
2¾	1¼	2	1¾	1¾	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	—.17	.45	4½	1⅝	12¾	2
3	1⅞	..	..	..	Ryan Consolidated	296,931	N.P.	....	.....	....	.46	....	4	2⅛	6½	2¼
4	3½	..	..	..	Southern Pipe Line	100,000	$10	15cSA	3-1-39	.30	.85	.41	5⅜	3¼	7¼	3⅞
34⅞	27¾	29¾	29¼	29¼	South Penn Oil	1,000,000	$25	37½cQ	3-31-39	1.75	4.64	3.59	39	28¾	56	35
19¾	17	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	4-1-39	2.00	.95	.97	22¼	16½	42	20
18¾	17¼	17⅞	17½	17¾	Standard Oil of Kentucky	2,604,790	$10	50cQ†	3-15-39	1.25	1.60	1.46	18¾	15	21⅛	17¾
10½	6	9½	9½	9½	Standard Oil of Nebraska	161,403	$25	25c	3-29-37	....	—.58	.42	8¾	5½	13¾	8
21¼	17	18½	18⅛	18⅛	Standard Oil of Ohio	753,740	$25	25c	3-15-39	1.00	3.67	4.77	22¾	16¼	45	16
2⅝	1⅞	2	1⅞	1⅞	Sunray Oil	2,006,176	$1	5c	4-27-39	.05	.42	.26	3¼	2	4⅞	2
4	2¾	2⅞	2¾	2¾	Texon Oil & Land	936,024	$2	15cQ	9-30-38	.60	.51	.36	5¼	3½	7⅝	2
5½	2½	3⅛	3	3⅛	Transwestern Oil Co.	750,000	$10	....	.....	....	.48	.06	7⅝	4¼	18⅞	4⅝
3⅜	1⅝	2⅛	1⅞	2	United Gas Corp.	7,818,959	$1	....	.....	....	.25	.20	5¼	2⅝	13⅞	3

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock.

New or Improved Equipment

Easy Inspection Is Provided by New Enardo Vent Line Valve

A recent development announced by Enardo Foundry & Manufacturing Co., 2729 Sand Springs Road, Tulsa, is a vacuum pressure tank valve that



assembles on top of the vent line. Easy inspection is provided by a hinged cover-plate held by a thumbscrew. The seating action is simply checked from the ground by a rope attached to a test lever on the atmospheric side of the valve. Pressure is variable from 1½ to 16 ounces.

Enardo tank equipment consists of hatches and valves for a single tank up to a complete Enardo vapor control system that takes care of any size tank battery. It is described in detail with illustrations in a recently issued circular obtainable on request.

Lifting Costs Are Reduced by New National Geared Power

In line with the continued effort toward lower oil-lifting costs the National Supply Co. has developed a new and larger geared power, the Type G-150-B, made for the heaviest requirements of central power pumping. The general design is the same as Types G-30-B, G-50-B, G-75-B, and G-100-B National geared powers. The nominal horsepower rating is 144, and A.P.I. peak torque rating is 714,500 inch-pounds at 20 s.p.m. Available stroke lengths range from 30 to 40 inches.

The rotating shaft design used on all National

geared powers, including the Type G-150-B, brings the pullrod load close to the case and allows an unusually wide spacing of rotating shaft bearings. This construction is particularly effective for providing against severe well loads and maintaining the rotating shaft in original alignment. In addition the case is used to support the load close to the pullrod itself, the load of the upper bearing being carried by the heavy reinforced upper half of the case.

A feature of the Type G-150-B, in common with all Type G National geared powers, is the ability to inspect the inside of the case at any time without removing the crank or power disc or disturbing the alignment of the gearing. The upper half of the case is split for this purpose. Other features include an adjustable stroke attained by five different positions of an adjustable crankpin. Such stroke changes are made conveniently in the field without disturbing the crank disc assembly.

All enclosed parts are lubricated by a removable vane-type oil pump located in the center of the hollow intermediate shaft. Oil is distributed automatically by gravity to all points requiring lubrication, and the system is effective under all conditions and operating speeds. Well connections are of an improved type.

The G-150-B power is made to operate in the open. A V-belt drive with a power shaft extension to reduce the blind angle is generally used. Complete details on this power are given in Bulletin 235.

Super Joins Timken-Detroit

Ralph K. Super, since 1936 chief engineer for Linderman Devices, Inc., and before that associated with Mack Truck and General Motors in engineering and research work, has joined the engineering staff of Timken-Detroit Axle Co., Detroit, Mich.

"Mr. Super's long experience in handling brake engineering problems places him in a particularly favorable position to cooperate with other engineers of truck, bus and trailer manufacturers, in matching brake capacity to the ability of the vehicle," said Walter F. Rockwell, vice president, in announcing Mr. Super's appointment.

Worthington Adds to Its Series of Monobloc Pumping Units

A group of compact turbine-driven centrifugal pumps is Worthington Pump & Machinery Corp.'s latest addition to its line of Monobloc centrifugal

pumping units. Especially suited for conditions where fire and explosion risk from chemicals, gasoline, dust, oil or gas make other power units unsafe, the new units are flexible and applicable where only steam power is available.

Capacities range from 10 to 400 gallons per minute at 10 to 240 feet total dynamic head, with steam pressures ranging to 300 pounds per square inch maximum. Pump fittings may be had in standard bronze, iron or special materials.

These units have found a ready market in oil refineries, power, chemical and industrial plants, and are especially suited to air-conditioning, refrigeration and heating system installations. More complete information, rating tables, sectional views, etc., may be had in Bulletin W-321-B3, obtainable from Worthington Pump & Machinery Corp., Harrison, N. J.

UNIT RIG'S NEW COMBINATION MEETS OIL-FIELD NEED

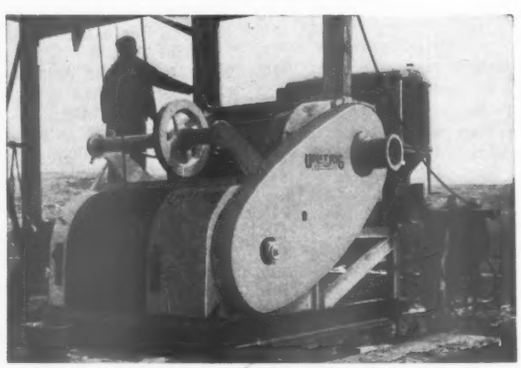
The combination service hoist and auxiliary spudder unit put on the market by Unit Rig & Equipment Co., Tulsa, is designed to meet the needs of operators who have scattered operations and who have limited lease trucking facilities.

Heretofore operators and contractors have had no choice other than the conventional double-drum spudder unit in permanent combination. While the combination service hoist and auxiliary spudder unit does not entirely supplant the double-drum spudder unit, it does offer an unusually versatile piece of equipment.

Unit Rig standard single-drum service hoists used for pulling rods and tubing and for bailing and swabbing, can be quickly attached to the company's Model U 19 auxiliary spudder unit, consisting of sand-reel and spudder, for fishing, cleaning out and deepening wells or for tailing-in after rotaries. The unit can be moved completely assembled or it can be disconnected and hauled separately.

Companies already owning Unit Rig single-drum units can purchase the U 19 auxiliary spudder unit, and thus have the advantages of a double-drum spudder unit without the weight and expense of sand-line drum and spudder on all their service hoists. Obviously, only one U 19 unit is required for combining with several service hoists.

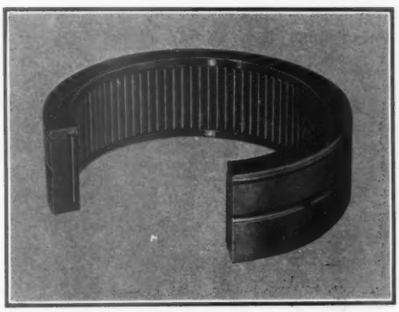
Unloading from truck



In operating position in field

Roller Bearing Co. of America Introduces Ingenious Product

One-piece outer-race construction is the outstanding feature of the new Cyclops needle bearing designed by the Roller Bearing Co. of Amer-



ica, Trenton, N. J. Engineers of the company have developed an ingenious method of retaining a full complement of rolling elements without the aid of any auxiliary parts, yet permitting ready disassembly in the field if required. The ends of the rollers are conispherical, forming ball-point contact with the race lands while in their path of travel.

For economy to the user, the Cyclops bearing is provided with an oil groove and a snap-ring channel which reduce to a minimum the cost of machining a recess for lubrication and locating of the bearing in the housing.

Cyclops bearings are manufactured from SAE-52100 steel hardened through and ground to precision limits. The bearing is designed in a range that accommodates shaft diameters from one-half to 8 inches. They are available with or without inner races in 200 different sizes. Overall diameters and rated capacities at different speeds are given in Bulletin SF-16.

Purdum Engineering Consultant

John F. Purdum, widely known production and equipment engineer, formerly with Stanolind Oil & Gas Co. and the Muskogee Iron Works, has opened offices as engineering consultant in drilling and production methods and equipment and installation design. Mr. Purdum, from 1917 to 1925, was roustabout, pumper, tool-dresser, driller, and tool-pusher in Wyoming, Kansas, Texas, Oklahoma and in Poland. Then he entered the Colorado School of Mines, graduating in 1930. He then spent two years as research engineer with Oil Well Supply Co. and two years as chief engineer with American Manufacturing Co. of Texas. Following three years as equipment engineer with Stanolind, he joined Muskogee Iron Works in 1937, where he was manager of the machinery department until a few weeks ago. He is a member of the Society of Professional Engineers of Oklahoma and the Engineers Club of Tulsa. He has specialized in drilling and production methods and in the development of equipment and installation design. He has established offices in the Thompson Building, Tulsa.

Here and There With Men Who Manufacture Equipment

Allegheny-Ludlum Steel Corp., Pittsburgh, Pa., has appointed W. F. Pravel district sales manager in the Houston, Tex., territory. Mr. Pravel joined the company in 1934. Before that he was connected with Benton & Anderson Co., Detroit, Mich., and served as southwestern manager of Ohio Seamless Tube Co., Shelby, Ohio.

Harvey L. Miller has been appointed representative of Youngstown Sheet & Tube Co., Youngstown, Ohio, in the sale of oil-well tubular goods in Mid-Continent oil fields. His headquarters will be in Dallas, Tex.

L-K Pump Valve Co., Houston, Tex., has been made sole distributor for cup leathers and rubber cementing washers manufactured by Rockwell Leather & Packing Co., Los Angeles, Calif. It will handle these products in all the United States east of the Rocky Mountains.

Rodney S. Durkee, executive vice president of Lane-Wells Co., went to St. Joseph's Hospital, Santa Ana, Calif., recently to undergo appendectomy. He had completed an extensive trip through the company's branches in the Mid-Continent and the Gulf Coast.

Hake Tool Co., Houston, Tex., has appointed P. D. Long representative in Louisiana, with headquarters at Shreveport, and J. L. Richardson as representative throughout eastern fields, in charge of sales, service and distribution of drilling, reaming and coring tools manufactured by Globe Oil Tools Co.

Foote Brothers Gear & Machine Corp. has appointed G. T. Luippold, 1115 South Hope Street, Los Angeles, Calif., district representative and sales engineer, covering its IXL gear and speed-reducer products.

Harvey Drew, formerly employed by National Supply Co., is now associated with I. Frank Brown, New York, export representative. Mr. Drew is to be located in Venezuela after spending several weeks visiting plants of equipment manufacturers whose products are handled in export by the Brown organization.

Robert A. McIntyre, inventor of the Calmec streamline valve, has joined the staff of the Calmec Manufacturing Co. of Los Angeles, Calif., maker of oil well specialties, and will have charge of engineering and coastal sales for that company. Mr. McIntyre is a graduate of the California Institute of Technology as a master of science in mechanical engineering.

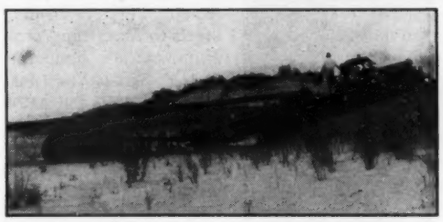
Oberholzer Made Sales Manager

Matthew R. Oberholzer has been promoted to sales manager of L. H. Gilmer Co., Tacony, Philadelphia, Pa. He assumes direction of sales for all the company's lines, consisting of V-belts, and fabric and rubber-fabric flat belts and belting. Mr. Oberholzer was in the Gilmer sales department 10 years. He was assistant sales manager for the past six years, during four of which he headed the fractional-horsepower belts division.

A. K. Schindewolf, from the Gilmer sales staff in Philadelphia, has been appointed district manager for Louisiana, Mississippi and Arkansas, with headquarters in New Orleans. In the Chicago territory, in charge of Andrew B. MacFarland, division manager, the following salesmen have been assigned new territories: O. K. McCullough, district manager for Kansas and western Missouri, with Kansas City headquarters; Cliff T. Pilkey, district manager for eastern Missouri and southern Illinois, operating from St. Louis.

Sand Dunes on Lake Michigan Serve for Arabian Fields

When one of the major oil companies ordered a fleet of mammoth Marmon-Herrington all-wheel-drive trucks for use in Arabia, recently, it was desired to test the performance of the vehicles over terrain as closely as possible resem-



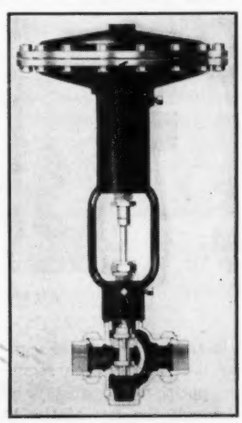
bling that which would be encountered where the trucks would be put into service. So while the sand dunes on the southern shore of Lake Michigan are more than 150 miles from Indianapolis, where Marmon-Herrington trucks are built, the first unit of the fleet was driven for testing to that location where the deep loose sand and shifting dunes approximate the desert conditions.

Oil-field service on the Arabian desert imposes a severe test of a motor truck's power, tractive ability and stamina. Latest oil discoveries in Arabia, as was the case in Iraq, are hundreds of miles from paved roads over deep, loose, drifting sand, where a heavily loaded truck must plough steadily through sand half-way to the hub caps, hour after hour and day after day. Servicing and repair facilities are almost nonexistent.

The picture shows a large Marmon-Herrington all-wheel-drive truck and pole trailer with a load of 30,000 pounds of railroad rails being tested out.

Regulators With U-Type Bodies Are Added to Fisher's Line

Two new and improved union end regulators, Types 10U and 57U, have been added to the line of automatic controllers made by the Fisher Governor Co., Marshalltown, Iowa. According to P. A. Elfers, sales manager, these regulators feature a new U-type body made from a hard bronze alloy. They are designed to receive a varying or high pressure at the inlet side, and automatically deliver a constant reduced pressure to the outlet system. They are suitable for use with water, steam, air, oil, or gas.



Bodies on Types 10U and 57U are equipped with a heavy brass hex, ground joint, two-thirds union. Type 57U, illustrated, is spring-actuated. Type 10U (not shown) has a swing link yoke and balanced lever. It can be installed with the diaphragm above or below the pipe line.

Balanced inner valves are of the double-seated, quick-opening type. They are available in either Duromite bronze or stainless steel.

Positive seating and more sensitive control are said to be obtained with a patented Flexaline connection between the inner valve and the valve-stem. Sizes range from one-half inch to 2-inch screwed-globe, union-end, all-bronze body, suitable for pressures of 250 pounds and 450° F. Further information is given in Catalog C.

New Link-Belt Chain Designed for Fast and Deep Drilling

Link-Belt Co., Indianapolis, Ind., in the process of improving and extending its line of rotary drilling rig chains, has developed a drop-forged side-bar API-4 chain having an ultimate strength of 180,000 pounds, precision built of durable alloy steels to American Petroleum Institute standards. It is designated as Link-Belt Super Hyper API-4 and is announced as having the requisite qualities to combat the stresses and strains of faster and deeper drilling.

Claimed for the chain are: (1) Greater strength and freedom from distortion under heavy load. (2) Exact chain pitch and precision of bushing and chain fits assured by new methods of manufacture. (3) Press fits which make the assembled link an extremely rigid and durable unit. (4) Galling of chain joint forestalled, and longer chain life assured, by the lubricating qualities of cadmium plating on the pins and by the smoothly ground bearing surfaces of the bushings being given a protective coating of oil before the bushings are assembled into links.

Details of construction are given in an illustrated folder, No. 1713, which Link-Belt offers to send upon request.

Unusual Slip-Type Casinghead Developed by Oil Center Tool

Oil Center Tool Co., Houston, Tex., has developed and proven an unusual slip-type casing head, Type C-7X, for use with oversize flanged blowout-preventer equipment. As shown in the

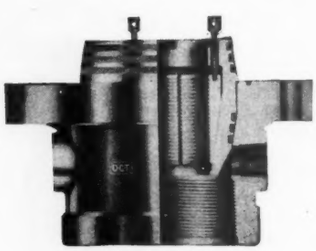


Figure 1

illustration the three-segment slips are enclosed by the hanger, each segment being held securely in position by an eye-bolt which extends up through the top of the hanger. The entire slip-bowl assembly is lowered through the oversize blowout-preventer equipment to its seat in the casinghead body in one operation.

Figure 1 is a cross-sectional view of the O-C-T Type C-7X casinghead, showing the hanger seated in the bowl of the head and illustrating the method of attaching the slips to the slip-bowl by means of eye-bolts. A wire or soft line, attached to each of the three eye-bolts, facilitates lowering the assembly (Figure 2) to its seat. After suspending the casing and cement has set, the blowout-preventer hookup is removed and the eye-bolts are cut off flush with the top of the slip-bowl and the holes are welded up. In the same operation, the casing is cut off just above the slip-bowl and welded thereto.

Figure 2 illustrates the recommended method of running and landing casing, using an O-C-T Type C-7X casinghead, a conventional master gate, ram-type blowout-preventer, and an O-C-T blowout-preventer. The slip-bowl assembly is being lowered through the oversize drilling control hookup. After the casing is suspended and the welding operations are completed, as outlined above, an O-C-T Type T-16 tubing-head replaces the blowout-preventer hookup, bolting down on top of the Type C-7X casinghead. Three rings of hydraulic packing on top of the Type C-7X hanger effect an auxiliary seal between the hanger and the Type T-16 tubing-head. Thus, with casing set and cemented and the tubing-head bolted down, the annular space is sealed by hydraulic packing on the bottom of the hanger, by a pressure-tight weld between the casing and the hanger, and by

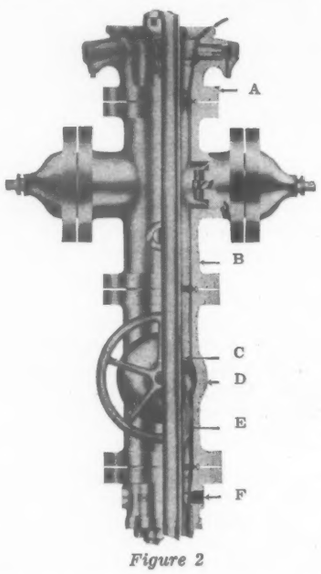


Figure 2

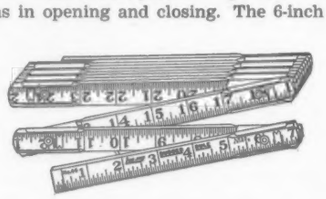
an A.P.I. ring gasket between flanges of the two heads.

Figure 2 shows: A, O-C-T blowout-preventer; B, ram-type preventer; C, wire or soft line used to lower hanger into position; D, master valve; E, C-7X hanger passing through preventer equipment; F, C-7X casinghead body.

Lufkin Rugged Rule Designed to Overcome Easy Breaking

The Lufkin Rugged rule, just placed on the market by Lufkin Rule Co., Saginaw, Mich., is a 6-foot folding wood rule designed to overcome the common complaint that such rules break easily.

It has tough, hardwood sections of extra thickness (one-eighth inch), making it not only more durable, but more rigid than ordinary rules. The smooth-working spring joints are brass-plated and have patented locks, maintaining accuracy. This rule has brass strike-plates to prevent wear of sections in opening and closing. The 6-inch hard-

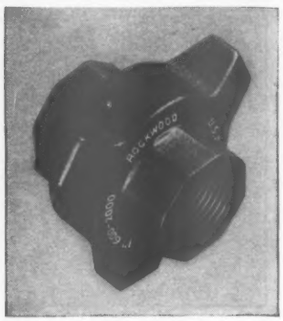


wood sections have a special finish, giving them a uniform, light, boxwood color, so the black markings are easy to read.

Rugged rule No. 46 is the same as No. X-46, but without the extension slide. Its distinguishing mark is a bright red stripe down the center of each end.

Strength and Toughness Mark Rockwood Dualsteel Union

The new Rockwood Dualsteel hammer-lug union, with triple-lug nut, announced by Rockwood Sprinkler Co., 38 Harlow Street, Worcester, Mass., is a solid-constructed union made of a new special alloy steel. It is said by the manufacturer to be characterized by extreme strength, toughness, and resistance to corrosion, and to meet the exacting requirements of oil-producing and refining.



The triple-lug nut, already familiar in the oil industry, adds to convenience in making up or breaking unions apart. The union is especially suitable for use in processing lines in industrial plants where unions must be "broken" quickly and often. The triple-lug nut is said to withstand the shock of blows from a hammer, metal bar, etc.

Dualsteel's greater Brinell hardness is of added advantage in a hammer-lug union. It offers stubborn resistance to severe galling tendency due to tremendous pressure at seats created by hammer blows. It is said to resist even the impact of the sledge-hammers used in placing unions on a line.

Westinghouse Offering Motors for Oil Well Drilling Purposes

A complete line of wound-rotor alternating-current drawworks, mud-pump and table motors for oil well drilling is announced by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

Of special interest in this new design are a pro-

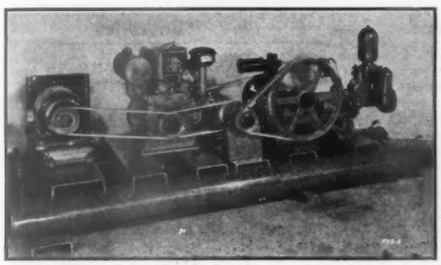
tected collector assembly with liberal spacing of collector rings, liberal heat-radiating surface, and a construction of enclosed rings and leads to withstand high operating temperatures. These motors may be equipped with thermoguard to give protection against unsafe motor-winding temperatures when motors are overloaded.

The standard line includes motors with gas protected collectors, and with frames of open-type construction, or splashproof construction which may be arranged with or for forced ventilation. Time-tried Westinghouse features include rigid cast frame and end brackets, sealed-sleeve bearings, large conduit boxes and Tuffernell insulation.

Motors of the new design, with control of the open or protected, manual or magnetic type, are available in ratings of 50 to 500-horsepower, three-phase, 50-60 cycles.

General Utility Unit Is Built for Major Oil Company's Garage

This general utility unit was built by the Harley Sales Co., oil-field distributor for Wisconsin Motor Corp., for a major oil company to



use in its garage in western Kansas, where its trucks and field cars are serviced.

The unit consists of a 5½-horsepower Wisconsin air-cooled engine driving a 1½-kw. direct-current, 110-volt generator, mounted on a Rockwood base. Electricity is generated for lighting purposes and also for charging the car and truck storage batteries. A switchboard carrying rheostat, switch, fuses, and voltmeter is provided.

The engine is connected through two V belts to a jackshaft, which rotates in Link-Belt ball-bearing pillow-blocks. To the shaft is connected the newly built Goulds 2 by 4¼-inch single-cylinder, double-acting reciprocating pump, capable of maintaining a discharge pressure of 250 pounds pressure. This pump is to furnish water for general use and for high-pressure nozzles in washing cars and trucks.

An air compressor is connected to the jackshaft and discharges the air into the base of the entire unit. This base consists of three sections of casing interconnected and thereby furnishing air storage. The casing carries drains, pressure gauges, and safety valves.

Harley Sales Co. is located in Tulsa, with a warehouse and office in Houston, Tex.

Efficient Service and Long Life Given by Double-Seal Ring

A one-piece double-seal piston-ring with non-breakable sealing member is offered by the Double Seal Ring Co., Fort Worth, Tex., to meet the demand for a ring that will not break in service, even when installed in badly worn and tapered cylinders or in engines requiring extremely narrow rings. This new double-seal ring retains all the advantages of the regular double-seal ring along with the advantage of the new non-breakable sealing member.

The manufacturer says efficient service and long life are assured by this new piston-ring. Descriptive literature is obtainable on request.

Bulletins, Booklets, and Other Literature for the Trade

A new line of explosion-proof motors is presented in an illustrated bulletin mailed on request by the Louis Allis Co., Milwaukee, Wis.

"Products of Haynes Stellite Company" is an attractive new booklet published by Haynes Stellite Co., Kokomo, Ind., a unit of Union Carbide & Carbon Corp. It presents the physical, mechanical and chemical properties of the company's principal products.

Bulletin 139, issued by the Esterline-Angus Co., Indianapolis, Ind., tells in its 12 illustrated pages how to select, apply and use time-recorders.

American Hoist & Derrick Co., St. Paul, Minn., is offering a 24-page booklet on the qualities and correct use of the Crosby wire-line clip.

The McCabe gauging and sampling device is the subject of a 16-page booklet obtainable from McCabe Tank Gauge Co., 140 Cedar Street, New York.

The latest issue of Valve Values, house organ of the Edward Valve & Manufacturing Co., Inc., East Chicago, Ind., furnishes a story on "Measuring Valve Parts." Equipment, methods, and problems connected with the inspection of valve parts are discussed and illustrated.

Two new bulletins have been issued by the Pyle-National Co., 1334 North Kostner Avenue, Chicago, one on an improved type of heavy-duty conduit fittings and one on a line of explosion-proof and dust-proof "Pylets."

Victor Equipment Co., 844 Folsom Street, San Francisco, is ready to release an illustrated 32-page welding and cutting apparatus catalog which combines the essential equipments covered in individual and previously issued catalog sections.

A leaflet entitled "Lo-Maintenance Direct Current Motors and Generators," has been released by the Allis-Chalmers Manufacturing Co., Milwaukee, Wis. Another, on "Explosion-Proof Motors," shows Allis-Chalmers explosion-proof motors in a variety of dangerous applications.

Four bulletins are announced by Worthington Pump & Machinery Corp., Harrison, N. J.: Centrifugal heavy-duty process pumps for refinery service, Type UT; centrifugal heavy-duty process pumps for refinery service, Type LT; Monobloc centrifugal pumps, turbine drive; vertical four-cycle Diesel engines, Type CC.

L-R flexible couplings are the subject of a looseleaf bulletin offered by Lovejoy Flexible Coupling Co., 5009 West Lake Street, Chicago.

Wall-Building Tester Available for Work in Remote Districts

With the introduction of the new Baroid air-pressure pump the Baroid Sales Department, 837 Jackson Street, Los Angeles, Calif., makes the

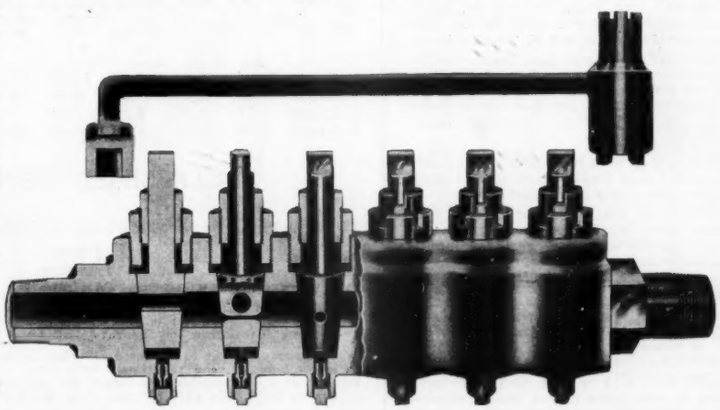
Baroid wall-building tester available for operators drilling in remote districts.

This wall-building tester involves the compressing of the drilling mud at 100 pounds pressure per square inch against a filtering medium and thereby obtaining a comparative determination of the thickness of cake formed on the walls of the hole and the volume of water lost to the formation. Cake thickness and water loss are influenced by the percentage and physical state of colloidal material and amount of inert solids. Heretofore, whether or not a mud would form, a thin and impervious cake had to be determined by individual tests for the viscosity, gel strength, sand and salt content, and percentage of solids. However, the Baroid wall-building tester simplifies all this by providing a direct determination of the wall-building characteristics of a mud and consequent over-all evaluation of drilling mud.

The air-pressure pump has been designed especially for supplying the air pressure for the wall-building tester in remote regions or other cases where it is inconvenient or undesirable to use the standard cylinder containing 1,800 pounds of compressed air because facilities for refilling the cylinder are not readily available. It is of the two-cylinder type.

CHOKE WITH SIX FLOW-BEANS HELPS STOP FREEZING

A new development in chokes is provided by the Howard Smith variable choke (patented), which has six flow-beans, each of which can be operated by a quarter-turn of the stem. The first flow-bean has the function of a valve. The five others have chokes of any desired sizes, usually running from one-eighth inch diameter at the valve end to one-quarter inch at the other end. If a small particle tends to stop up one of the chokes, a half-turn will reverse the direction of flow through the choke and clear it. This choke is tested to 8,000 pounds cold water pressure and is pressure-lubricated with grease through fittings at the bottom of each flow-bean.



According to the manufacturer, Howard Smith Co., 1201 Sawyer Street, Houston, Tex., it has been found that this type of choke, when installed on high-pressure gas and distillate wells, or on oil wells having a high gas-oil ratio, tends to eliminate freezing on the line when the chokes are set in successively increasing sizes.

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SACRIFICE 40-acre Oil Lease, Chaves County, for only $10.00, full price. Guarantee title. P. O. Box 191, Clovis, N. Mex.

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FOREST City Basin, Brown Co. Kans. Leases adjoining Carter and Phillips blks. Margaret Haynes, R. #3, N. Topeka, Kans.

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Who can secure from major oil companies drilling contracts in the Illinois basin. We have the most modern, portable drilling equipment and guarantee highest efficiency and satisfaction. If you have the entree to oil company officials and desire to connect with a financially responsible progressive firm on a highly remunerative basis, give full details regarding yourself, experience and qualifications in first letter. Address Box J-980, The Oil and Gas Journal, Tulsa, Okla.

WANTED: Technical Engineer experienced in application of centrifugal pumping equipment in oil industry refineries and pipe lines, for field contact work and sales primarily. Give full statement of experience. Address Box 981, The Oil and Gas Journal, Tulsa, Okla.

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PROCESS engineer: 7 years' experience including laboratory supervisor, assistant plant superintendent, extensive road oil manufacturing, research and control, preliminary refinery operations in new plant. Good references. Circumstances necessitate change regardless of remunerations. Address Box J-962, The Oil and Gas Journal, Tulsa, Okla.

WANTED SALES RIGHTS for outstanding oil field or refinery items. Complete sales organization. Address Box A-332, The Oil and Gas Journal, Fort Worth, Tex.

ASPHALT chemist; 6 years' experience in road oil manufacture, can also handle other duties of laboratory. Good references. Address Box J-963, The Oil and Gas Journal, Tulsa, Okla.

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WANTED producing oil royalties and oil payments in North and West Texas and New Mexico. P. O. Box 1535, Fort Worth, Texas.

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	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

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TULSA, OKLA.

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FOR SALE: At Oklahoma City 1—Toledo Standard Electric Power Drive Powered with 1½ hp. 110 or 220 volt motor. I. T. I. O. Company, Bartlesville, Okla.

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Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Ellwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Santa Paula*	Wheeler Ridge	Kettleman Hills	Orcutt*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76				$.80	$.76	$.76	$.77	$.78			$.70	$.70	$.70			$.70	
15-15.9	.80	.79	.74	.78	.79	.80	.76				.80	.76	.76	.77	.78			.70	.70	.70			.70	
16-16.9	.80	.79	.74	.78	.79	.80	.76				.80	.76	.76	.77	.78			.70	.70	.70			.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76				.80	.76	.76	.77	.78			.70	.70	.70			.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78				.82	.76	.76	.77	.78			.70	.70	.70			.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81				.85	.76	.78	.77	.78		$.70	.74	.74	.71	$.70		.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84				.88	.78	.82	.77	.80		.70	.78	.78	.72	.70		.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88				.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70		.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92				.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72		.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79		.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76		.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81		.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79		.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83		1.02	.95		.89	.99	.86	.88	1.01	.98	.90	.88		.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86		1.05	.98		.92	1.03	.90	.91	1.06	1.02				.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	...	1.10	1.03	.88			1.02		.96	1.06	.95	.95	1.10	1.06				.95	
28-28.9	1.14	1.10	.90	1.14	1.15	...	1.14	1.07	.90			1.06		.99	1.10	.99	.99	1.15	1.10				.97	
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93			1.09		1.03	1.14	1.03	1.02	1.20	1.14				.99	
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.				1.07	1.17	1.08	1.06	1.25	1.18				1.01	
31-31.9					1.24	Pipe	1.24	1.22	.97	Ship				1.11	1.21	1.12	1.09	1.29						
32-32.9					1.27	Line	1.27	1.27	1.00					1.14	1.25	1.16	1.13	1.34						
33-33.9								1.32		1.28				1.18	1.28	1.20	1.17	1.38				$1.19		
34-34.9								1.37		1.32				1.22	1.32	1.25	1.20					1.23		
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40-40.9								1.66						1.43										

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over. By Standard Oil Co., effective October 15: El Segundo, 14 to 18.9 degrees, 80 cents; 19-19.9, 82 cents; 20-20.9, 85 cents; 21-21.9, 88 cents; 22-22.9, 92 cents; 23-23.9, 95 cents; 24-24.9, 99 cents; 25-25.9, $1.03; 26-26.9, $1.06; 27-27.9, $1.10; 28-28.9, $1.14; 29-29.9, $1.17; 30-30.9, $1.21. Wilmington, 14 to 16.9, 75 cents; 17-17.9, 77 cents; 18-18.9, 79 cents; from 19 degrees upward, prices same as Signal Hill.

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